PRIMUS LINE

SAFE.RELIABLE.SUSTAINABLE.

SUSTAINABILITY

SUSTAINABILITY

INDEPENDENTLY VERIFIED BY THIRD PARTY

Sproule ERCE

The independent external service provider ERCE was commissioned by Rädlinger primus line GmbH to determine the current status of its CO_2 footprint - formally known as the greenhouse gas inventory (GHG inventory). Greenhouse gases are differentiated according to three classes ("scopes").

The service provider has ISO 14064-3 certified auditors and validators.

You are welcome to request a detailed report.

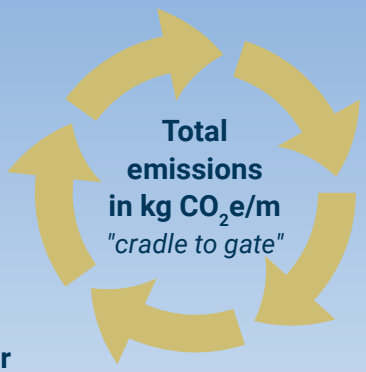
		tCO_2e
Scope 1:	Direct emissions	365
Scope 2:	Indirect and upstream emissions	355
Scope 3:	Indirect, upstream and downstream emissions	5,707
	Scope 3 Cat 1:	
	Purchased goods and services	*4,351*
	Other Scope 3 emissions	*1,356*

The analysis and differentiation of the Primus Line data and the conversion of the emissions into CO_2 equivalents (CO_2e) results in the following GHG inventory for the year 2023:

6,427 tCO_2e

This corresponds to an output …

- ➔ of about 1,816 EU households – which is less than 0.001 percent of all EU households.
- ➔ of around 8.5 full return flights from Munich to New York.



Primus Liner

ED-150-W	22
ED-200-W	34
ED-250-W	47
ED-300-W	61
ED-350-W	56
ED-400-W	73
ED-450-W	89
MD-150-W	31
MD-200-W	39
MD-250-W	54
MD-300-W	65
MD-350-W	71
MD-400-W	75
MD-450-W	78
MD-500-W	104
HD-150-W	51
HD-200-W	59
HD-250-W	69
HD-300-W	90
HD-400-W	118

To make the climate impact of our products transparent and comprehensible, we have calculated the CO_2 footprint per running metre for each of our liners.

This product-related emissions assessment makes it possible to quickly and easily determine the CO_2 emissions for specific projects.

The determination and calculation was based on EN 15804.

P7017 Primus Line
GHG Emissions Inventory 2023

P7292 Primus Line
Product Footprint calculator

Comparison of DN 500 pipes made of different materials in kg CO_2e/m

Ductile iron	350 - 450
Carbon steel	400 - 600
HDPE (PE-100)	80 - 120
PVC	130 - 200
GRP	70 - 150
Concrete	250 - 400

Note: The values are average values and may vary depending on the manufacturer, production process and regional factors.

ADVANTAGES

TRENCHLESS PIPE REHABILITATION

Reduction of greenhouse gas emissions through lower fuel consumption:

- Significantly fewer or no traffic delays and diversions
- Fewer construction machines and faster construction work
- Reduced disposal of excavated material
- Minimised transort of construction materials by truck to the construction site and overall lower demand for construction materials, i.e. asphalt concrete, stones, backfill material etc.
- Considerably reduced noise emissions
- Reduce fine dust emissions

Compared to open trench, Primus Line® is a more sustainable alternative:

- Lower construction costs
- Lower social costs
- Reduced environmental costs
- The use of trenchless technologies can lead to major greenhouse gas savings of up to 90%.

Source: New GSTT Information 31 „CO_2 Initiative"

EXAMPLE

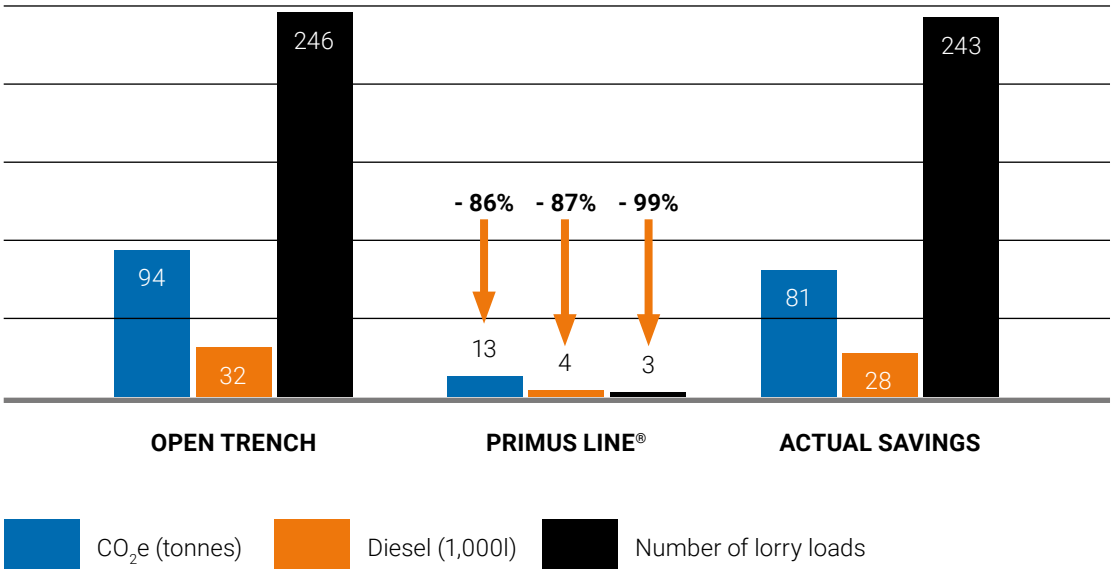
CALCULATION ON THE PROJECT

Reducing greenhouse gases - including carbon emissions - is becoming increasingly important these days.

One of our partners used the carbon footprint calculator for trenchless technologies to determine the savings on a specific project - with astonishing results. The project involved the rehabilitation of a 700 metre long DN 400 drinking water pipeline.

Various factors play a role in the calculation, such as the pipe diameter, the pipe length, the amount of material to be removed, the fuel consumption of the construction machinery, the location of the construction site in combination with the required transport routes, the number of loads required, the type of soil and the amount of excavation work required for connections or valves. In other words, the pure construction work.

On this basis, the reduction in greenhouse gases in tonnes of carbon dioxide equivalent (tCO_2e), the saving in diesel fuel and the reduction in the number of lorry loads are calculated:



The analysis revealed a significant reduction in carbon emissions of around **86%**. This was mainly due to the lower number of loads required (minus 99%), but also to the significantly shorter use of excavators when digging the construction pits. At the same time, this led to a considerable saving in fuel consumption (minus 87%), as the use of construction machinery and necessary equipment was reduced to a minimum.

The 'Carbon Calculator' from the North American Society for Trenchless Technology (NASTT) provides helpful guidance for your own calculations.

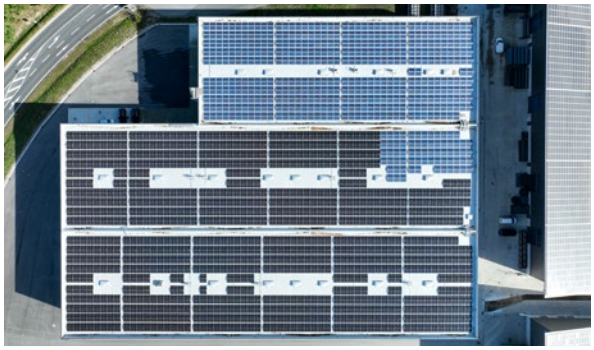
➔ *https://nastt-bc.org/carbon-calculator/*

CURRENT FACTS

(measures already realised)

Vehicle fleet and e-mobility:

- 85 vehicles in the fleet;
  30 of them **e-cars**
- **25 e-charging stations** at the facility
- Replacement of electric and diesel forklifts with more efficient **electric forklifts**



Renewable energies:

- **205 kWp** output of the new photovoltaic system on the production building in Weiding. Own utilisation is around 22%. The remaining electricity is currently made available to the public grid.
- **800 kWp** output of the new photovoltaic system on the new warehouse in Chammünster. Own utilisation is around 42%. The remaining electricity is currently made available to the public grid.
- **4.35 MWp** output of all photovoltaic systems belonging to the Werner Rädlinger Group including grid feed.

Heating and power supply:

- Heat recovery and heat pump technology for in-house energy utilisation in the Primus Line logistics halls

ENERGY MANAGEMENT

A twelve-member energy team at the Werner Rädlinger Group continuously identifies relevant measures to improve energy efficiency. The central objectives are to continuously save energy and increase energy self-sufficiency in order to become less dependent on fossil fuels.

This has already resulted in a specific energy saving of 20% from 2022 to 2023 in relation to turnover.

Within the company, further photovoltaic systems are planned for self-sufficiency. Additional improvements to the lighting, compressed air, IT, heating, ventilation and sanitary technology are planned for the coming years. The management is also planning to further expand electromobility.

Primus Line pursues an active energy management system in accordance with ISO 50001.

"For me personally, sustainability is a key concern. Our aim is not only to deliver the highest quality with every metre of liner we produce, but also to constantly reduce our carbon footprint.

With the trenchless process, we are also helping to conserve valuable water resources and minimise losses in the network. Together, we are making a positive contribution to our environment and future generations."

Werner Rädlinger, Owner

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