



Nottingham Trent
University



European Union

European Regional
Development Fund

Sustainability in Enterprise

Environmental and Carbon Assessment Summary Report

Company: PR Power Installations Ltd
Version: 1
Date of Assessment: 24 October 2021

This programme is funded by the European Regional Development Fund (ERDF). ERDF helps local areas to stimulate their economic development by investing in projects which will support innovation, businesses, create jobs and local community regenerations

1. Summary

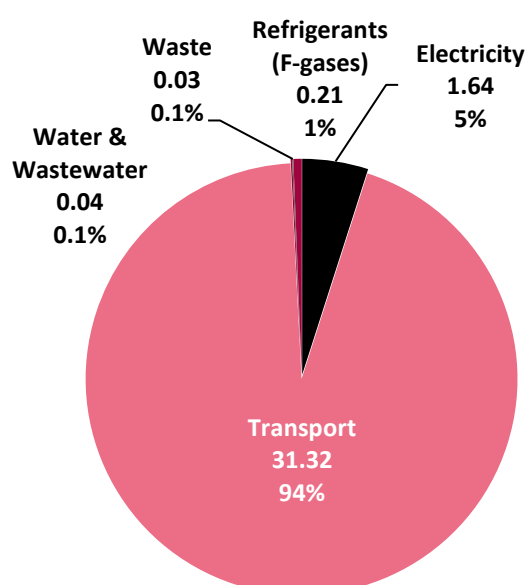
The following report has been prepared by Nottingham Trent University's Sustainability Team as part of the ERDF Sustainability in Enterprise programme. The information contained in this report and recommendations form part of the funded consultancy support offered to eligible SMEs to help reduce their operational carbon emissions and improve environmental performance. The report is based on an initial Environmental and Carbon Assessment meeting and site visit carried out with PR Power Installations Ltd on 13 October 2021.

PR Power Installations is an industry leader in installation of data cable, based in Nottingham where it was founded in 1977. Working with both public and private sector clients, the business specialises in optical fibre, blown fibre and copper cable data communications cabling installations along with traditional electrical installation contracting. The business is based in a leased premises, covering approximately 107 square metres which includes an office area and small storage area on the ground floor. PR Power Installations, which has a staff of 15, have already taken steps to improve environmental performance including upgrades to their building fabric and lighting to ensure energy efficiency and installation of electrically supplied combined heating and cooling units.

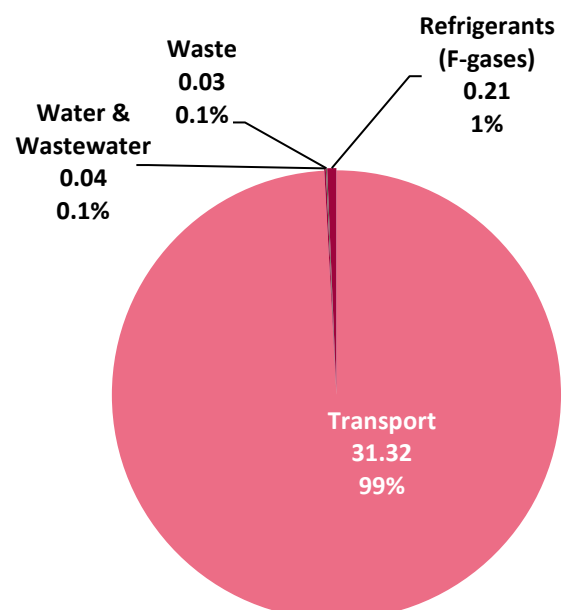
Baseline Carbon Footprint

The following information provides a summary of the carbon emission baseline for operations for the financial year 2019-20. Data was provided by PR Power Installations and through observations during the site visit. For any areas where data was incomplete, estimates have been made in consultation with PR Power Installations. Full details of carbon emissions categorised by scopes, along with sources of data and any assumptions are in the Appendix.

Total Absolute Emissions (33.23 tCO₂e):



Total Net Emissions (31.59 tCO₂e):



Total Emissions (tCO ₂ e)	
Electricity <i>Net electricity* - 1.64</i>	1.64 0
Transport	31.32
Refrigerants	0.24
Waste	0.03
Water & wastewater	0.04
Total	31.59

** PR Power Installations has indicated they have a REGO backed 100% renewable electricity tariff, thus net emissions for electricity can be reported as zero.*

It is important to monitor both net and absolute energy emissions. A green energy tariff enables the public reporting of 0 tCO₂e net emissions, however it's still important to consider implementing measures to reduce overall business emissions as much as possible. Figures and percentages in this report will be based on net carbon emissions, however, both will be shown in the energy section to demonstrate savings that can still be made.

Key recommendations for reducing carbon emissions

PR Power Installation's total net carbon emissions associated with annual business operations has been calculated at **31.59 tCO₂e for financial year 2019/20**. More details about the methodology and carbon conversion factors can be found in the appendix.

PR Power Installations have implemented measures to reduce carbon emissions related to energy, waste, and water. Whilst they've also undertaken measures to ensure their fleet vehicles are efficient, transport related emissions form the most significant aspect of overall emissions, by a vast majority, and as such, also present the greatest opportunity for further reducing carbon emissions.

Through the consultancy support offered in the [Sustainability in Enterprise project](#), a number of recommendations for reducing carbon emissions have been identified and provided in PR Power Installation Ltd's full Environmental and Carbon Assessment report. As part of next steps, Power Installation Ltd's will be reviewing these recommendations and will take these into consideration as part of their overall efforts to reduce their carbon emissions.

Appendix: Methods and Data Sources

All costs and carbon emission saving estimates are based on industry research that is correct at the time of the Assessment. We recommend getting an evaluation by a specialist in the area i.e. lighting or heating, before undertaking any work as figures may vary.

Category	Total annual consumption	Total net emissions (tCO ₂ e)	Proportion of total carbon emissions	Data source and assumptions
Electricity	5,700 kWh	0 Net Emissions 1.64 Absolute Emissions	0% 5%	Electricity consumption for 2019/20 was provided in kWh by PR Power Installations. In line BEIS GHG and conversion factor guidance , Scope 3 Transmission and Distribution and Scope 3 'Well To Tank' emissions have been included for electricity along with Scope 2 emissions per kWh. PR Power Installations indicated they have 7 diesel work vans and provided data about litres of fuel purchased. For business travel, PR Power Installations indicated that only a small amount of business travel is undertaken by fully electric vehicle, thus no emissions were recorded for this travel. For staff commuting, mode of travel and roundtrip mileage was provided. For the 7 staff who utilise their designated work van for commuting to site, this was left off the estimations as this will already be covered by the amount of diesel purchased for the work vans.
Transport <i>Company fleet</i> <i>Business Travel</i> <i>Staff commuting</i>	6,000 litres diesel 250 miles electric <i>Commuting</i> – Bus 2,951 miles – Car (average): 34,731 miles	31.32	99%	
Refrigerants in heating and cooling units	0.099 kg due to estimated normal leakage	0.207	0.7%	Whilst there was no data available about recorded top-up or recharges to their heating and cooling units, guidance suggests that an estimated leakage rate of 3% per annum is expected for a stationary unit of this size. The type of refrigerant gas and total charge capacity is based on the manufacturer's specification for the make

				and model installed at PR Power Installations.
Water & Wastewater	35 m ³ (35,000 litres)	0.04	0.1%	Water consumption for 2019 was provided in cubic metres (m ³) by PR Power Installations. Whilst a specific figure for wastewater was not available, it has been estimated that wastewater equals 95% of water consumed.
Waste	1.38 tonnes general waste	0.03	0.1%	For their office premises, PR Power Installations has only one waste stream which is general waste comprising a mix of cardboard and general mixed commercial waste. This waste is collected in an external 1100 litre bin which is collected fortnightly. Tonnages for this general waste were estimated based on data from NTU's waste contractor Enva. These figures are averages taken from 10 years' worth of weight data on commercial waste collections, exchanges and tip and returns.

Please see the list below for references used throughout and resources for further information:

Carbon calculations: UK government [guidance on company greenhouse gas reporting and carbon conversion factors](#) are provided by the Department for Business, Energy & Industrial Strategy. 2020 Conversion Factors were used for the estimation of PR Power Installations carbon footprint. Further guidance can also be found in the [Environmental Reporting Guidelines](#).

Gas and electricity costs (industry average): Average costs per kWh for gas and electricity can be found in the [UK Government data sets](#)

Carbon Trust guides for SMEs: energy and carbon saving estimations were informed by guidance documents available for SMEs through the [Carbon Trust](#).

Energy efficient lighting: Information found in [Zero Waste Scotland's Lighting Improvements Calculator](#) was consulted whilst estimating energy savings from lighting upgrades. The Carbon Trust also have useful resources for [assessing lighting options](#)

[Zero Waste Scotland resources for SMEs](#) (though Scotland-based, the resources can be useful for general information for environmental best practice and energy efficiency in businesses).

[Energy Saving Trust Reducing Home Heat Loss Figures](#): for many of the estimated carbon savings, figures have been based on household data for detached housing. Data for businesses is very difficult to come across due to the high variability of the impact and premises. Therefore potentially higher carbon savings and installation costs can be predicted than those suggested.

Electric Vehicle calculations: Savings based on UK Government Department for Transport '[Transport Energy Model Report](#)'

Please find further information on the Sustainability in Enterprise's funding:



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To find out more information about ERDF please visit:
https://ec.europa.eu/regional_policy/en/funding/erdf/