Carbon Reduction Plan

Supplier Name: J1-LED Intelligent Transport Systems Pty Ltd
Publication Date: 23rd August 2024

Commitment to achieving Net Zero

J1-LED is committed to achieving Net Zero emissions by 2040 and reducing Energy Consumption and Greenhouse Gas Emissions *(aligning with the United Kingdom's National Highways Construction & Maintenance Emission targets and working towards the legislated target of Net Zero by 2050)*.

Baseline Emissions Footprint

BASELINE YEAR: 2021/2022 FINANCIAL YEAR

BASELINE YEAR EMISSIONS:	
EMISSIONS	**TOTAL (tCO_2e)**
SCOPE 1	11.054
SCOPE 2	108.246
SCOPE 3	2110.378
TOTAL EMISSIONS	2229.678 tCO_2e

Current Emissions Footprint Reporting

BASELINE YEAR: 2023/2024 FINANCIAL YEAR

BASELINE YEAR EMISSIONS:	
EMISSIONS	**TOTAL (tCO_2e)**
SCOPE 1	20.604
SCOPE 2	110.062
SCOPE 3	2371.494
TOTAL EMISSIONS	2502.160 tCO_2e (12% Increase from Baseline)

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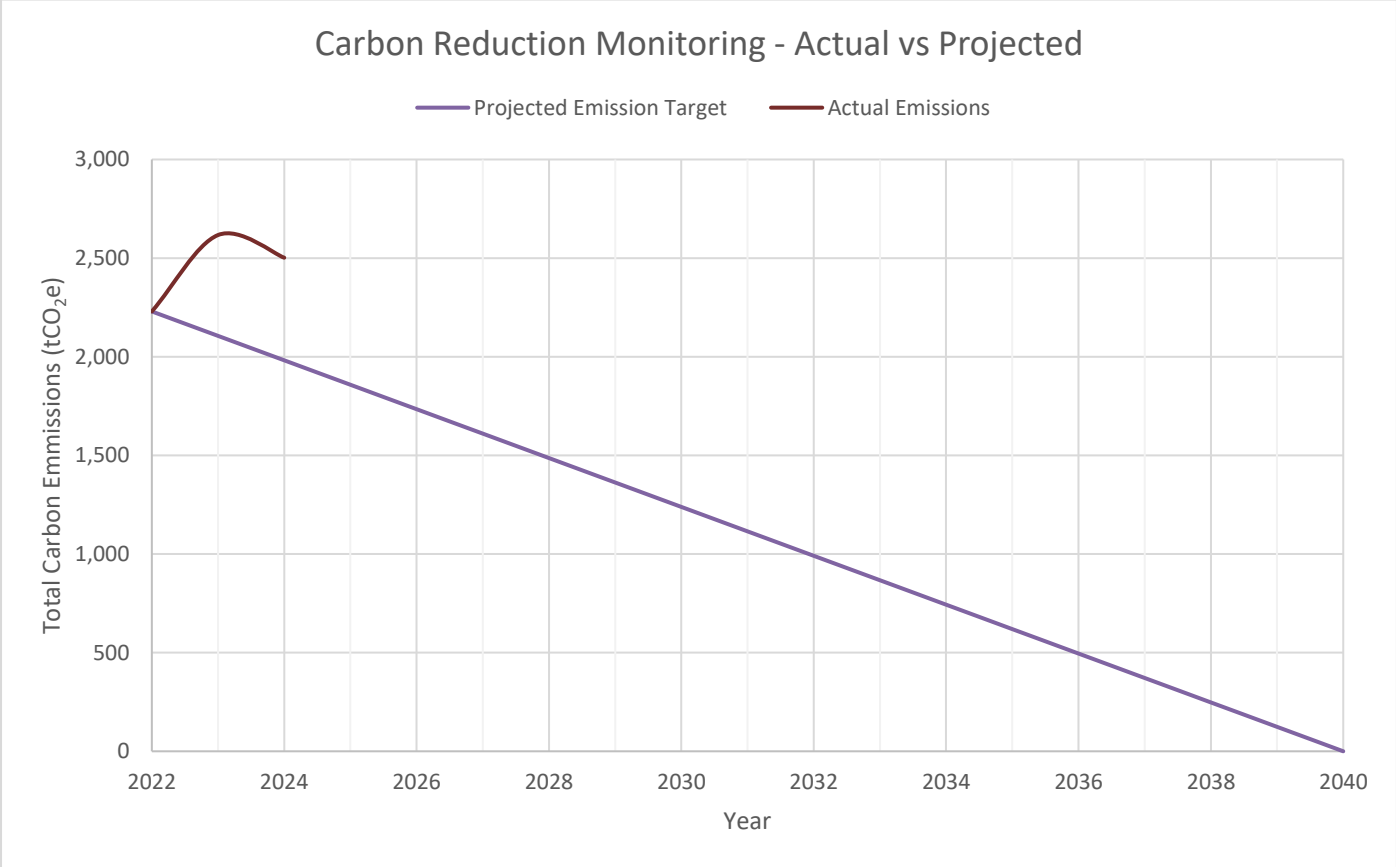
Emissions Footprint Reduction Targets

In order to continue our progress toward achieving Net Zero Emissions, we have adopted the following carbon reduction targets;

- Net Zero by 2040
- Reduction of Emissions steadily, year-on-year, towards the Net Zero Goal (approx. 6% reduction per annum)

We project that carbon emissions will decrease over the next five years to 1360 tCO2e by 2029. This is a reduction of 40% from the 21/22 FY Baseline (and a 46% reduction from the latest financial year's reporting)

The Progress against these Targets can be observed in the graph below, commencing from the 2022 Baseline.



Please note that the emissions Reporting throughout this document is based on the utilisation of the SME Climate Hub's Small Business Carbon Calculator for the complete business operations of J1-LED.

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Carbon Reduction Projects

ISO 14001 Environmental Management Certification:
ISO 14001 Environmental Management Systems is already in place (Stage 1 Audits completed with Formal Stage 2 Audit & Certification scheduled for April 2025), providing the System for a Culture change to pursue the Net Zero Goals through managed Reductions and Continuous Improvement Projects. This management system covers the Management Framework, Internal & External Auditing, Environmental Performance and Continuous Improvement Projects, focused on achieving commitments in a strategic and measurable manner.

LEAN Manufacturing Culture & Principles Training:
Investment in building a LEAN Manufacturing Culture throughout the business to make our Operations more efficient with strategic "waste" elimination in processes and procedures. J1-LED has invested in training all QLD, Australia-based staff with formal training in 2022/2023 in LEAN Manufacturing, obtaining Certificate IV in Competitive Systems and Practices, with further dedicated time to implement the learnings throughout the organisation across every department. The learnings gained from this training have influenced good practices, positive culture and pushed forward continuous improvement projects at every level.

Emission Reduction for J1-LED's Manufacturing Facilities:
J1-LED continuously invests in our manufacturing facilities to ensure our direct emission output is minimised while supporting our future business needs for higher productivity. To achieve this, key aspects for the reduction plans include;

- Regularly review and invest in high-efficiency machinery and tools to reduce energy use relative to productivity.
- Upgrade facility lighting to high-efficiency LED systems with automated lighting controls.
- Optimise production schedules and product manufacturing to minimise workshop changes, machine Idle times and excessive machine/equipment set-ups/start-ups.
- Invest in preventative maintenance to ensure equipment and machinery are operating at optimal efficiency and minimise the risk of unforeseen production interruptions.

Solar Powered Manufacturing Investments:
Our main manufacturing facility and workshop in Brisbane, Australia, is scheduled to install a 100kW Solar System as a key environmental improvement project. Of the total energy produced, 40% will directly power J1-LED's business operations, significantly reducing the company's reliance on grid electricity and cutting emissions.
An additional 30% of the generated energy will be exported back to the grid, allowing J1-LED to contribute clean energy to the broader network and offset its carbon footprint even further.
The remaining 30% of capacity has been strategically allocated to support future business growth, ensuring that J1-LED maintains its commitment to low-carbon energy use as operations expand.

Supplier Pre-Qualification Questionnaire with Quantitative Environmental Items, including preferential engagement with ISO 14001 Organisations:
A Pre-Qualification Questionnaire for all major suppliers & contractors with Quantitative Environmental Items as part of the Questionnaire and final Supplier Selection Process with a preference towards organisations with

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Environmental Management Systems and External Third-Party ISO 14001 Certification to ensure the organisations that J1-LED directly engage have Environmental Continuous Improvement Practices in place with active monitoring. This assists in ensuring that our indirect emissions are being actively controlled & reduced downstream in our supply chain.
Furthermore, this process includes checking the suppliers for responsible & recycled raw material (if applicable), so this means the engagement of suppliers that are;

- Certified suppliers with accreditations from relevant organisations such as ASI
- Compliant with the responsible minerals initiative
- Promoter of recycled materials
- Promoter of lead-free, halogen-free and biodegradable materials

Key Supplier Carbon Emission Reduction Analysis & Recommendations:
J1-LED commits to a regular review of our supply chains to identify our largest contributing suppliers and to approach these suppliers regarding partnering for carbon emission reduction projects. J1-LED will partner with the suppliers for:

- Analysis of supplier facilities and operations, including discussion of manufacturing processes & machinery
    - including process automation, VSD, and heat-recovery systems, for example.
- Query the energy source and promote renewable solutions such as solar.
- Promoting remote meetings to reduce travel emissions.
- Joint review of J1-LED products and components for engineering design efficiencies to reduce waste and energy consumption from the supply of products/components.
    - Where CNC machinery is implemented, review the raw material waste reports available.
- J1-LED promotes the implementation of reflow soldering as an efficient alternative to wave soldering.

Local Manufacturing Arrangements:
J1-LED will endeavour, where practically possible, to secure manufacturing partners locally to the assembly & distribution facilities to reduce excessive handling and long-distance freight.
Further benefits are obtained through the use of local suppliers, giving opportunities to build better working relationships, closer to actively resolving any manufacturing concerns and risk of further transport if there is a non-conformance that requires returning.
J1-LED is actively promoting the use of local community suppliers due to the benefits beyond emissions released as a result of excessive transport efforts.

Whole-of-Life Engineering Design for Ultra-Low Power Consumption Solutions:
J1-LED is continuously and heavily investing in research and development to ensure we are utilising the latest technology, with a strong focus on ethical sourcing, recyclable materials and electrical products with low power consumption. The multi-disciplinary engineering design teams are working to ensure minimal power consumption of our product deployments for the following benefits;

- Reduced whole-of-life energy consumption, reducing the electricity demands.
- Supporting solar infrastructure and future-proofing infrastructure for renewable energy upgrade projects.
- Reduced power componentry in the Deployment, e.g. fewer solar panels, fewer batteries and a lighter supporting structure for less equipment.
- Reduce product/system size, reducing freight efforts and packaging waste etc.

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Engineering Design for Lightweight Products and Material Efficiency:

J1-LED invests engineering development effort into our multi-disciplinary engineering team to work towards ensuring lightweight, efficient, low waste products with active promotion of continuous improvements across our product range, ensuring a product is environmentally conscious and practically possible. This engineering development includes the following considerations;

- Implementation of LEAN manufacturing principles.
- Prioritising using aluminium in metalwork designs where structurally practical to ensure lightweight products, energy-efficient fabrications and whole-of-life recyclability.
    - Reduced product mass lowers transportation emissions.
- Review & adapt product designs to ensure best practice implementations against the machinery being used for the tasks.
- Utilising material wastage/nesting software to minimise waste.
- Integrate design-for-recycling principles to ensure products can be dismantled and materials recovered at end-of-life (as required by the WEEE regulation 2013).
- Optimise product physical sizes and packing designs to utilise more efficient distribution & transport.
- Validate local availability to ensure practical manufacturing is possible using the local region to reduce the potential of excessive transportation emissions.

Prioritise the use of Sustainable & Recyclable Materials:

J1-LED recognises the environmental impact of the complete product life-cycle, including its end-of-life planning, which is a consideration at the design phase of the product's development. Therefore, J1-LED products are increasingly based on the utilisation of sustainable & recyclable materials, which predominantly are;

- Aluminium metalwork.
- Steel metalwork (where aluminium is not practically possible).
- Polycarbonate plastics.
- EPDM rubber for gaskets & sealants.

The remaining product material is primarily made of Electrical Components that can be recovered and refurbished under the WEEE regulation 2013.

Hybrid/Fully Electric Transport Initiative:

J1-LED recognises that the impact of component and product transport to/from our manufacturing facilities significantly contributes to our emissions. Therefore, J1-LED is to actively select and utilise freight services that invest and promote the development of electric and hybrid vehicle fleets.

Furthermore, within J1-LED's owned and operated vehicle fleet, we actively seek to promote hybrid and fully electric solutions, extending to employee vehicles and service/maintenance vehicles.

We are also investing in R&D efforts to promote the implementation of hybrid & fully electric vehicle suites within our truck mounted product ranges (Cone/Bollard Trucks & Truck Mounted Atenuators) to reduce the emission impact of our products from a whole-of-life perspective and incentivise our customer base to reduce their impacts also.

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Business Travel:

J1-LED is committed to reducing carbon emissions from business travel as part of its broader sustainability strategy. To achieve this, J1-LED has implemented the following guidelines:

- Promote virtual meetings using Microsoft Teams (or similar) to reduce the need for in-person meetings.
- Prioritise lower-emission transport options such as trains, public transit, or electric/hybrid vehicles for regional business trips.
- Encourage carpooling or ride-sharing among employees attending the same meetings or events.
- Select direct flights to reduce emissions compared to connecting flights, where air travel is unavoidable.
- Choose ECO Certified Accommodations to ensure their Sustainable Practices.
- Invest in electric company vehicles for business travel and employee use.
- Plan combined trips to maximise the value of each journey and reduce the total distance travelled.
- Monitor and report travel emissions regularly to track progress and identify further reduction opportunities.

Declaration

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and the associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard, which uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions has been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the Managing Director.

Signed on behalf of the Supplier:

Date: 23 / 08 / 2024

Nathaniel Trieger
Managing Director