

# CARBON REDUCTION MANAGEMENT PLAN

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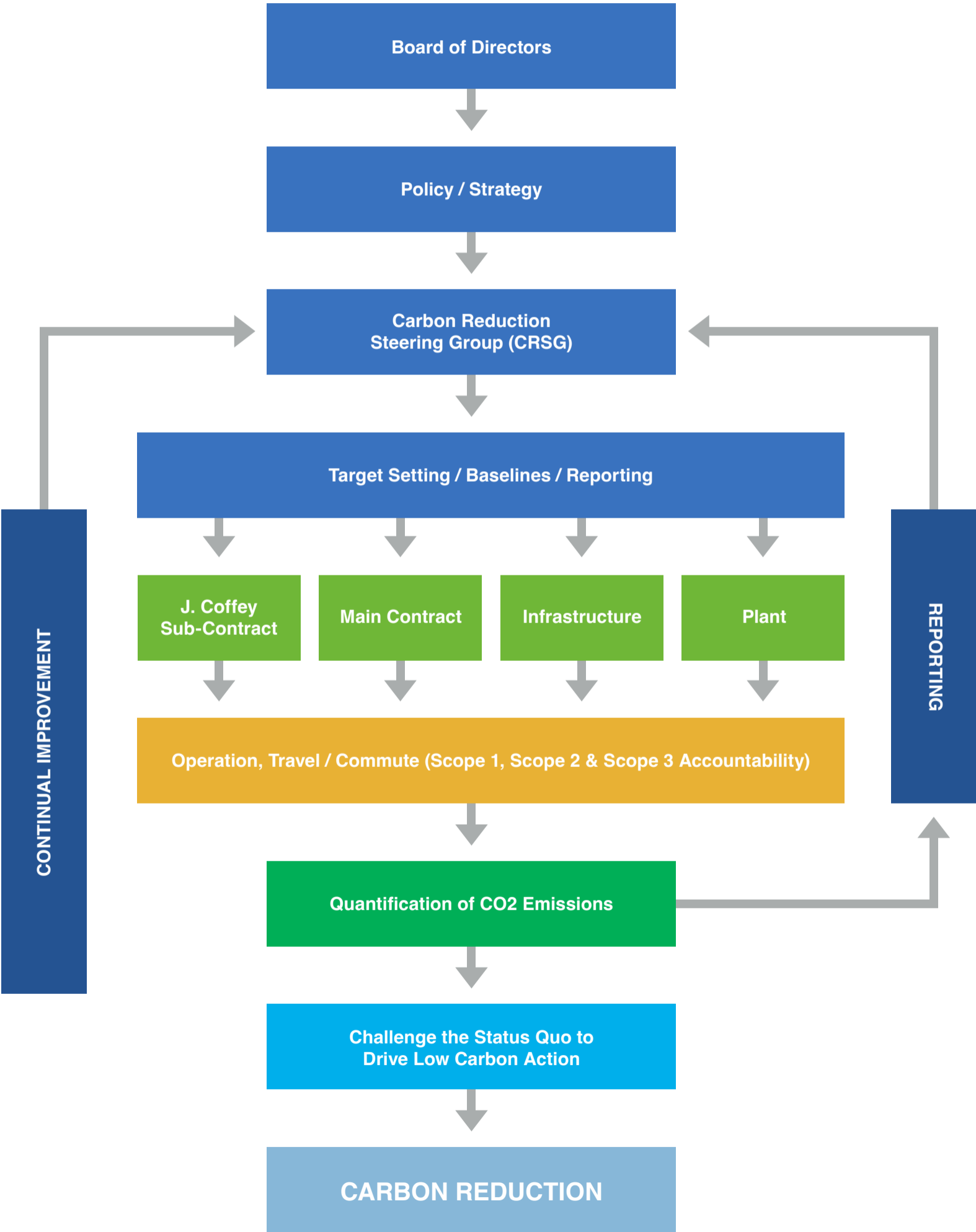
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To drive culture change in any business, it is essential to have effective leadership which leads through interventions to behavioral change and if a proactive approach by Directors and Senior Management is seen to be endorsed and encouraged by dissemination through the layers of project management to the operatives on the ground; then you can have a seamless application of best practice which can deliver the carbon emission reduction objectives both in operational support and in project delivery.

**To meet the targets set in our objective, the following will be applied:**

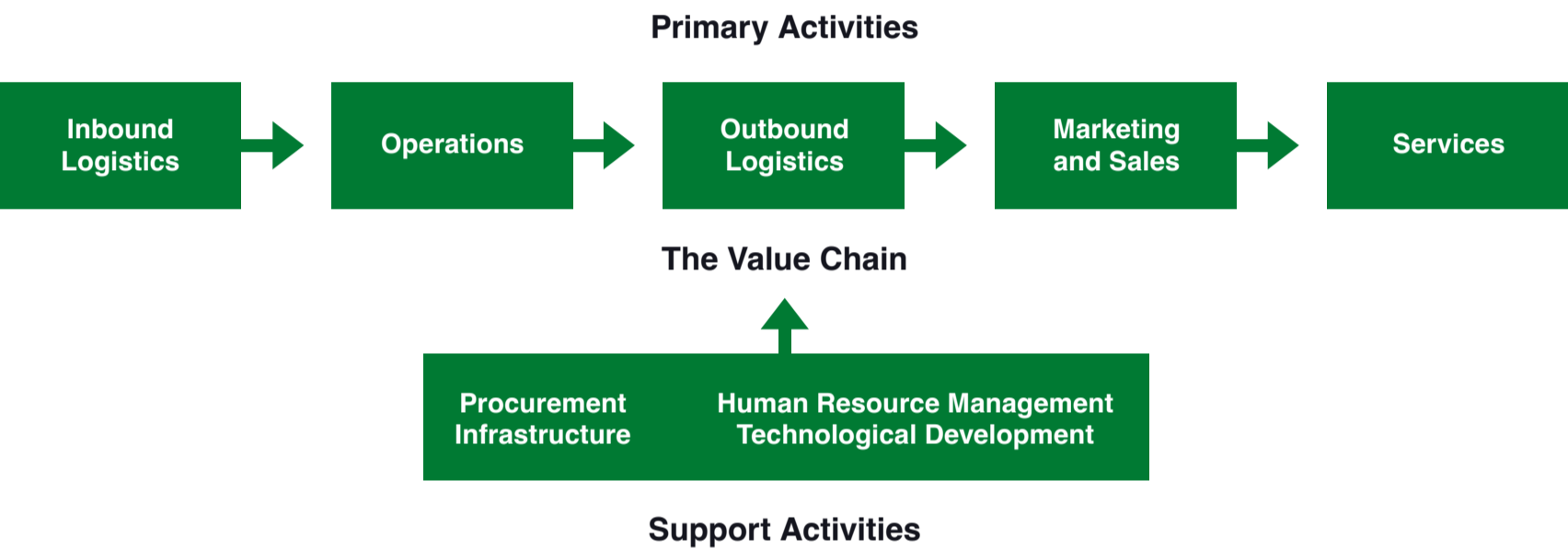
- Embedding our policy and strategy for carbon management within our organisation, which will be consistently communicated to all our staff at all levels and through to the value chain;
- To have a Carbon Reduction Steering Group (CRSG) approved by the Board of Directors and made up of technical and senior management, to have quarterly meeting reviews on how to deliver the strategy.
- To ensure that the gaps in carbon knowledge and skills are met by a implementing a comprehensive 'Learning Pathway' programme through online e-learning CPD accredited modules for project teams through the Supply Chain Sustainability School and provision of carbon reduction awareness Tool Box Talks to site operatives.
- To ensure that all decision making which will have a material effect on the reduction of carbon emissions, receives appropriate senior management level approval.
- Clearly communicating results of operational input for carbon reduction and associated outcomes for projects and the organisation as a whole.
- To ensure individual targets and objectives are set that align to organisational goals, ambitions and objectives related to carbon reduction as well as other project drivers (such as cost, programme & sustainability considerations etc.).
- To ensure that roles and responsibilities to help meet the accountability for carbon reduction performance are clearly delegated to appropriate staff and champions within the organisation to spread the desired behaviors and carbon management values.
- To maintain a licensed carbon measurement tool to capture the carbon data input and have a third party provide monthly reports for all projects
- Investment to be a key consideration in innovation and equipment that can assist delivering our Carbon Reduction objective.

The model below shows the layers of Governance dissemination.



A value chain is a business model that describes the full range of activities needed to create a product or service. The purpose of a value chain analysis is to increase production efficiency, so that a company can deliver maximum value for the least possible cost.

Porter’s Value Chain:



The idea of the value chain is based on the process view of organisations, the idea of seeing a manufacturing (or service) organisation as a system, made up of subsystems each with inputs, transformation processes and outputs. Inputs, transformation processes, and outputs involve the acquisition and consumption of resources - money, labour, materials, equipment, buildings, land, administration and management. How value chain activities are carried out determines costs and affects profits.

Most organisations engage in hundreds, even thousands, of activities in the process of converting inputs to outputs. These activities can be classified generally as either primary or support activities that all businesses must undertake in some form.

According to Porter (1985), the primary activities are:

- 1 w
  - 2 **Operations** - are all the activities required to transform inputs into outputs (products and services).
  - 3 **Outbound Logistics** - include all the activities required to collect, store, and distribute the output.
  - 4 **Marketing and Sales** - activities inform clients about services, induce clients to purchase them, and facilitate their purchase.
  - 5 **Service** - includes all the activities required to keep the service working effectively for the client after being appointed for delivery of service.
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- 1 **Procurement** - is the acquisition of inputs, or resources, for the organisation.
  - 2 **Human Resource Management** - consists of all activities involved in recruiting, hiring, training, developing, compensating and (if necessary) dismissing or laying off personnel.
  - 3 **Technological Development** - pertains to the equipment, hardware, software, procedures and technical knowledge brought to bear in the firm's transformation of inputs into outputs.
  - 4 **Infrastructure** - serves the company's needs and ties its various parts together, it consists of functions or departments such as accounting, legal, finance, planning, public affairs, government relations, quality assurance and general management.

## Initial Value Chain Management

Any starting point for value chain engagement, should commence with some dialogue with the tender enquirer's design team, to establish design parameters and any potential energy reduction value engineering. Consider the following:

### Design / Estimating Team (Input):

- Is there any opportunity for off-site manufacture (OSM) such as steel cages for beams and pad foundations to minimise deliveries, travel time?
- Substitute formwork for Beamform & Trick Track spacers to reduce excavation and use of timber.
- Recycled aggregate options for sub-base, concrete, backfill etc.
- Low carbon concrete specification options for high content of GGBS, cement substitute, offsetting.
- Ensure Purchasing Dept. has been accurately informed of material type and supplier certification compliance.

### Purchasing (Input):

- Ensure material specification has been correctly advised to avoid returns or materials not meeting compliance.
- Request no application of cling film wrap to palletised materials unless absolutely necessary.
- Request packaging/pallet take back scheme.
- Ensure local purchase where practicable to reduce journey distance of delivery.
- Consider bulk purchase to storage holding area to enable call off as required.

**Suppliers & Service Providers (Inbound Logistics):**

- Inform key members of the supply chain of the Organisations Carbon Reduction aspirations and ask how they can support our objective by way of alternative materials or efficiency in service delivery.
- Ask what they are doing to reduce their own carbon footprint.
- Request information associated to the delivery vehicles to enable data capture.
- Record source of delivery to project destination distance.
- Request service providers to utilize their own employees that are local to the project to reduce commute.

**Internal Logistics (Outbound Logistics):**

- Ensure deliveries are planned with vehicles materials loaded in sequence to the planned route for an efficient outbound and inbound journey.
- Ensure the size of vehicle is appropriate to the material or plant to be delivered.
- Ensure the delivery fleet is robustly serviced for optimum performance.
- Use euro 6 vehicle fleet for emission zone compliance.

**Operations (Outputs):**

- Use electronic plant as far as is reasonably practicable.
- Don't over specify heavy plant for use on site if a smaller machine will do the job.
- Ensure diesel plant & equipment issued to site is retro-fitted where practicable to mitigate fume emission.
- Use HVO D+ Bio-fuel instead of diesel on 94% of operational plan.
- Ensure the company 'No Idling Policy' is adhered to by delivery vehicles and plant on site that is not in use for short periods.
- Suppliers and service providers have provided delivery vehicle information along with origin of delivery so as to enable data collation.
- Ensure operative post codes are identified and where practicable appoint local operatives to project to reduce aggregate commute.

- Head office to collate Scope 3 emissions monthly and issue to **‘Compare Your Footprint’**.
- Report data findings on a quarterly basis.
- Conduct CRSG meetings to review data quarterly and evaluate findings to mitigate negative outcomes.
- Ensure a competent Carbon Reduction Champions are appointed on all projects.
- Ensure skips are fully utilised to mitigate voids to reduce skip delivery requirements.
- Two-week look ahead reviews are carried out to ensure relevant deliveries can be planned to mitigate reactive delivery requirements.
- Reporting carbon reduction outputs to Main Contractor.

#### **Human Resource Management:**

- Ensure agency workforce providers are aware of our Carbon Reduction aspirations, with a view to provide local labour for projects.
- Competency via online learning e.g. MBS and the Supply Chain Sustainability School
- Publicise to workforce of the companies ‘Cycle to Work Scheme’
- Encourage staff to ride to work or use public transport.
- Section 106 compliance for local employment opportunities.
- Promote in-house knowledge share to subordinates.

## Pledge to Net Zero Annual Progress Report 2022



J Coffey Construction committed to **Pledge to Net Zero** on April 30th 2020. It was clear that with Government requiring to meet a Net Zero target by 2050, businesses would come under increasing pressure to adopt a carbon reduction approach to service provision or not be in a position to tender for future projects.

Our approach as an organisation was to have Senior Directors undertake a three-hour practical workshop on Climate Change, to fully understand the consequences of how climate change can impact on the business, lead from a top-down prospective, through the tiers of management, and embed a culture of carbon emission reduction awareness throughout the business.

Employing the services of **Green Element** and sister company **Compare Your Footprint**, we had a bespoke data collation platform developed to capture some 40,000 material items for the purposes of algorithm mapping, with associated data issued & validated by a third-party **Planet Mark** for transparency.

We decided to use 2019 as a baseline non-COVID year, to establish our carbon footprint; skip 2020 and commence our reporting year from January 2021.

In support of our **Pledge to Net Zero** aspirations, we implemented the following but not limited to:

- Increased use of electronic plant.
- Procurement of next generation battery powered Hilti 'Huron' battery powered plant & equipment, which is more efficient.
- Increased use of LED telescopic lighting towers.
- Ongoing CPD accredited carbon reduction training & Tool Box Talks for operatives.
- In May 2022, In celebration of 'World Environmental Day,' we uploaded on our website our commitment to using HVO D+ Bio-fuel to replace diesel on 94% of all our Plant
- We introduced a 'Green Skills' initiative in collaboration with the Supply Chain Sustainability School, to all staff with those who complete the three levels of 'Learning Pathways' to become Affiliated members of IEMA (Institute of Environmental Management Assessment)
- Our Sustainability Director, was interviewed by Green Element in front of an audience of company leads, advising on how J Coffey implemented their Carbon Reduction initiatives
- A similar presentation by our Sustainability Director was delivered to ninety plus principles and directors of Dukes Education.

J Coffey Construction have based their Pledge to Net Zero 15-year objective, based on the Science Based Target initiative (SBTi) based on a 2019 baseline year resulting in a 4.2% reduction in carbon emissions year on year till 2034

As at the time of writing this report, J Coffey Construction are able to report the following findings:

**2019** baseline year carbon footprint was the following:

**2019 TOTAL EMISSIONS:**

- 2019 Scopes 1+2 = 436.7 tCO<sub>2</sub>e (Scope 1 = 420.9 tCO<sub>2</sub>e, Scope 2 = 15.9 tCO<sub>2</sub>e)
- 2019 Scope 3 = 35,898.5 tCO<sub>2</sub>e (Inclusive of revised methodology for establishing employee commuting)
- 2019 Scope 3 intensity = 690.4 tCO<sub>2</sub>e per site

**2019 EMISSIONS (minus construction materials):**

- 2019 Scopes 1+2 = 436.7 tCO<sub>2</sub>e (Scope 1 = 420.9 tCO<sub>2</sub>e, Scope 2 = 15.9 tCO<sub>2</sub>e)
- 2019 Scope 3 = 1,133.8 tCO<sub>2</sub>e
- 2019 Scope 3 intensity = 21.8 tCO<sub>2</sub>e per site

**2021** carbon footprint was the following:

**2021 TOTAL EMISSIONS:**

- 2021 Scope 1+2 = 407.8 tCO<sub>2</sub>e (Scope 1 = 391.7 tCO<sub>2</sub>e, Scope 2 = 16.1 tCO<sub>2</sub>e) 2021 Scope 3 = 41,626.2 tCO<sub>2</sub>e
- 2021 Scope 3 = 42,013.5 tCO<sub>2</sub>e (Inclusive of revised methodology for establishing employee commuting)
- 2021 Scope 3 intensity = 688.8 tCO<sub>2</sub>e per site

**2021 EMISSIONS (minus construction materials):**

- 2021 Scope 1+2 = 407.8 tCO<sub>2</sub>e (Scope 1 = 391.7 tCO<sub>2</sub>e, Scope 2 = 16.1 tCO<sub>2</sub>e)
- 2021 Scope 3 = 368.1 tCO<sub>2</sub>e
- 2021 Scope 3 intensity = 6.0 tCO<sub>2</sub>e per site

**2022** carbon footprint was the following:

**2022 TOTAL EMISSIONS:**

- 2022 Scope 1+2 = 320.7 tCO<sub>2</sub>e (Scope 1 = 300.4 tCO<sub>2</sub>e, Scope 2 = 20.3 tCO<sub>2</sub>e)
- 2021 Scope 3 = 21,647.1 tCO<sub>2</sub>e
- 2021 Scope 3 intensity = 400.9 tCO<sub>2</sub>e per site

**2022 EMISSIONS (minus construction materials):**

- 2022 Scope 1+2 = 320.7 tCO<sub>2</sub>e (Scope 1 = 300.4 tCO<sub>2</sub>e, Scope 2 = 20.3 tCO<sub>2</sub>e)
- 2022 Scope 3 = 828.9 tCO<sub>2</sub>e
- 2022 Scope 3 intensity = 15.4 tCO<sub>2</sub>e per site

**TO SUMMARISE:**

Total absolute GHG emissions have decreased by 39.5% and 48.2% in 2022, compared to 2019 and 2021 respectively. Emissions have decreased across all categories (with the exception of business travel and site consumption).

The largest reduction was seen in emissions generated from construction waste, which fell by 62% between 2019 and 2022. O'Donovan's waste contractor has recently transitioned their fleet to HVO D+ Biofuel. This reduction is due to more waste being diverted from landfill (in 2019, ~30,000 tonnes of waste went to landfill compared to ~62 tonnes in 2022), and the use of Biodiesel HVO in O'Donovan's fleet from Q4 2022 onwards.

Emissions have also been normalised by the number of construction items purchased to take into account company growth. Total absolute GHG emissions per item purchased were 75.0 kgCO<sub>2</sub>e in 2019, 65.0 kgCO<sub>2</sub>e in 2021, and 35.8 kgCO<sub>2</sub>e in 2022. This suggests that the carbon intensity of the construction materials J Coffey Construction are purchasing has significantly and consistently decreased between 2019 and 2022.

Taking out construction materials, total absolute emissions have decreased between 2019 and 2022 by 26.8%. The only two categories not to have decreased in emissions are site consumption and business travel, however these are both the two smallest sources of J Coffey's emissions. All other categories (fuel, commuting and construction waste) have seen a decrease in emissions in 2022 compared to 2019.



Original signed

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References:

- Porter, Michael E., "Competitive Advantage". 1985, Ch. 1, pp 11-15.  
The Free Press. New York.