# Belmont Desalination Plant

## Sustainability Annual Report November 2025

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| A | 04/12/2025 | Brodhie Slavin | Nick Cook | Sarah MacNish | Report reviewed by Project Leadership Team |
| 1 | 17/12/2025 | Brodhie Slavin | Nick Cook | Sarah MacNish | Updated to incorporate HW comments |
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| | | | | | |

# Definitions and abbreviations

| Term | Definition |
|---|---|
| GHG | Greenhouse Gas |
| GreenPower | Renewable energy from government accredited source as defined by the JH PPW tool |
| Hunter Water | The party to whom John Holland is contracted for a Project. For this project Hunter Water is Hunter Water |
| HW | Hunter Water |
| IS | Infrastructure Sustainability |
| ISC | Infrastructure Sustainability Council |
| John Holland | John Holland Pty Ltd (JH) as the organisation responsible for the total performance of the works under the Contract. |
| NGER | National Greenhouse and Energy Reporting |
| PPW | Project Pack Web |
| Renewables | Renewable energy from government accredited source as defined by ISC |
| SuMP | Sustainability Management Plan |

| John Holland Senior Leadership Team | |
|---|---|
| Sarah MacNish | Project Director |
| Jason Nisbet | Construction Management |
| Nick Cook | Environmental & Sustainability Manager |
| Monique Brown | Communications Community and Stakeholder Relations Manager |
| Scott Sattler | Commercial Manager |
| Trent Yourell | Engineering Manager |
| Lauren Lin | Senior People Advisor |
| TBC | Safety Manager |
| Anthony Dodds | General Superintendent |

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# 1 Executive Summary

## 1.1 General Overview

The Belmont Desalination Plant (BDP) Annual Sustainability Report November 2025 outlines the progress, initiatives, and commitments made by John Holland in partnership with Hunter Water to deliver a sustainable project that meets Infrastructure Sustainability Council (ISC) standards. This report highlights key achievements, ongoing efforts, and future plans for sustainability in the design, construction, and operational phases of the BDP.

The Sustainability Management Plan (SuMP), approved in November 2024, serves as the foundation for sustainability practices implemented throughout the project. The report emphasises the project's adherence to objectives and targets, including achieving an "Excellent" ISC rating, energy efficiency improvements, water conservation measures, material lifecycle optimization, and workforce diversity.

The Project team have established ongoing sustainability client meetings. Meeting minutes have been recorded and are available on Aconex.

Notable innovations include circular economy initiatives such as recycled plastic products from Transmutation Bar Chairs and Resourceful Living wheel stops, which significantly reduce carbon emissions. Additionally, the project has partnered with the University of Newcastle and Hunter Water to research brine reuse, aiming to enhance energy efficiency and promote a circular economy.

Sustainable procurement remains a priority, with emphasis on engaging high-impact suppliers and incorporating modern slavery assessments into subcontractor evaluations. The project has implemented renewable energy and fuel policies and explored opportunities for potable water reuse despite site-specific limitations. Materials such as concrete and steel have been selected with sustainability and environmental considerations in mind.

Looking ahead, the project is focused on submitting the first-round design submission for ISC certification by March 2026, with a forecasted score of 58.83 points meeting the contractual target for an "Excellent" rating. The report reflects John Holland's commitment to delivering sustainability outcomes for the Belmont Desalination Plant while collaborating closely with stakeholders to ensure compliance and innovation.

# 2 Sustainability Management

## 2.1 Sustainability Management Plan

The John Holland Sustainability and Environment policy in addition with the Hunter Water Corporation Environment policy were adopted by the Project and are publicly available on the John Holland environment and sustainability disclosures (Environmental & sustainability disclosures - John Holland) and as per the requirements of Man-1.

The project SuMP was developed in accordance with the Mitigation Measures (Management systems and procurement and purchasing) found in the Conditions of Approval and ISC framework. The SuMP associated sub-plans were developed in accordance with the Conditions of Approval and Mitigation Measures, these plans have all been approved. The list below outlines those documents and their status:

- Sustainability Management Plan: Plan approved on 19 November 2024
- Unexpected Contamination Procedure: Plan approved 9 September 2024
- Construction Waste Management Sub-Plan: Plan approved on 17 September 2024
- A list of all other relevant documents can be found in Appendix B in the SuMP

## 2.2 Progress against objectives and targets

The project is on track, performing well against its objectives and targets, with key milestones being met and progress aligning with planned outcomes. Table 1 below summarises this performance across the targets liste in the the SuMP.

Table 1: Sustainability Management Plan Targets progress

| Key Performance Indicator | | Target | Timeframe | Target Update |
|---|---|---|---|---|
| 1 | Infrastructure Sustainability Council (ISC) Rating. | Achieve an “Excellent” IS Rating for Design and As Built under version 1.2 of the IS rating scheme | At completion of Design and Construction works. | The target will be achieved after Project Completion. Weightings Assessment and Base Case Proposal have been verifier. Annexure 11 is forecasting an excellent rating |
| 2 | Energy efficiency and greenhouse gas (GHG) reduction. | Identify, scope and implement a minimum of three energy and carbon efficiency initiatives that minimise carbon emissions or, energy use. | Design Phase. | 1. An agreed reduction from the 300% transmission/mechanical capacity specified in Hunter Water Technical Specifications has been incorporated<br>2. Adoption of a two-stage partial permeate reverse osmosis process.<br>3. Removal of the chlorination of the seawater intake |
| 3 | Energy efficiency and GHG reduction. | Identify and implement construction energy and carbon efficiency initiatives and implement those carbon and energy efficiency initiatives identified where practical. | Construction Phase. | The project has implemented the use of B5 Biodiesel or renewable diesel equivalent across the project for John Holland and all subcontractors. |
| 4 | Energy efficiency and GHG reduction. | Identify, scope and implement alternative fuel and energy technologies for onshore construction. | Design and Construction Phase. | The Instagrid portable battery trial was successful, and two batteries have been purchased, $CO_2$-e savings will be tracked. Once construction begins on some of the smaller buildings options for hybrid generators will be explored. |
| 5 | Water resource conservation. | Identify, scope and implement non-potable water initiatives that reduce total potable water demand and optimise recycled water use. | Design and Construction Phase. | Minimal options available beyond tap fixtures. Location and quality of groundwater do not offer opportunities to store or reuse water. Water saving opportunities in the commissioning stage and for construction materials are being investigated. |
| 6 | Materials lifecycle impacts. | Identify scope and implement a minimum of three material saving initiatives that minimise embodied carbon emissions. | Design and Construction Phase | 1. Reduction in structural steel through the design process.<br>2. SCM content in the design mix for the intake tunnel, along with the MFRO slab<br>3. Use of Transmutation Bar Chairs and recycled plastic from Resourceful Living |

<table>
<tr><td>7</td><td>Waste minimisation.</td><td>Identify, investigate and scope sustainability initiatives to maximise waste landfill diversion.</td><td>Design and Construction Phase</td><td>Recycled products from Transmutation and Resourceful Living have been implemented. Measures to meet the office waste recovery target of 70% are being implemented for construction.</td></tr>
<tr><td>8</td><td>Workforce development, diversity and inclusion</td><td>Report on all spending on supplier engagements which are indigenous enterprises or social enterprises.</td><td>Design and Construction Phase.</td><td>Spending is now being tracked through the Subcontracts Register and will be reported in the Annual Sustainability Report.</td></tr>
<tr><td>9</td><td>Workforce development, diversity and inclusion</td><td>Report on the number of, or percentage of the following demographics:<br>(a) People who identify as indigenous.<br>(b) Women.<br>(c) People living with a disability; (d) People who identify as part of the LGBTQI community.<br>(e) People who are under 30 years of age; and<br>(f) People who are culturally and linguistically diverse.</td><td>Design and Construction Phase</td><td><table><tr><th>Workforce Development and Industry Participation</th><th>November 2025 (Headcount)</th></tr><tr><td>Apprentices</td><td>1</td></tr><tr><td>Learning Worker</td><td>5</td></tr><tr><td>Women in Trade-related Work</td><td>1</td></tr><tr><td>Workforce aged less than 25 years</td><td>11</td></tr><tr><td>Aboriginal Engagement (Workforce)</td><td>4</td></tr><tr><td>Women in non-traditional roles</td><td>2</td></tr><tr><td>Graduate Placements (inc. Undergraduates)</td><td>1</td></tr><tr><td>Workforce Living in Local Aea</td><td>45</td></tr><tr><td>Work Experience Placements</td><td>1</td></tr></table></td></tr>
<tr><td>10</td><td>Maintaining and Enhancing Ecology</td><td>Ensure that the Project has a minimum net neutral ecological value impact on the Project site.</td><td>Design and Construction Phase</td><td>Collaboration with Hunter Water on the Dune Management Plan and Construction Landscape Management Plan. Project is piloting v 2.2 Ecology credit to demonstrate net improvement in ecological value.</td></tr>
</table>

## 2.3 Status of Infrastructure Sustainability Rating

The BDP IS Rating Kick Off Workshop occurred on 18 November 2024 with members from ISC, Hunter Water, and John Holland in attendance. The Project has since organised monthly meetings with the IS Project Manager to ensure ISC are updated with the Project's progress, the first meeting occurring on the 28 November 2024. A full record of meeting minutes is stored in Aconex.

Both the Weightings Assessment and Base Case for the IS rating pathway have both been independently verified through the ISC process. Credit Summary Forms for the Design submission are well underway and a status of this is provided in section 5.1. The project team have also independently engaged a ISC accredited mock verifier to review the design submission. This will de-risk the verification process and lead to efficiencies in relation to progressing the as built submission.

The Project team is focused on incorporating the mock verifier feedback into the first-round design submission which will be submitted by March 2026.

The Project remains committed to achieving our Excellent IS rating and will continue to engage with stakeholders to ensure compliance and robust sustainability outcomes.

# 3 Initiatives, Innovations and Design

The project has explored potential initiatives and innovations, which have been recorded in the initiatives and innovations register, this register was supplied to HW for their information. The project has identified a number of potential Australian first innovations with a small number still being assessed in terms of their feasibility and suitability for the project in collaboration with various suppliers. However, the project has already targeted 10 innovations credits (maximum available) and any further innovations will therefore directly contribute to the material and GHG emissions reductions across other credits.

The main innovation category that BDP project team have focused on is the circular economy. The team have implemented an innovative circular economy initiative which moves from a linear model of take, make, and dispose to a closed-loop system in which materials are reused and repurposed. These initiatives from Transmutations and Resourceful Living adopt this innovative approach through the products described below:

Transmutation Bar Chairs:

By partnering with Dulux, Transmutation have developed a groundbreaking solution that transforms powder waste from the powder coating process into a valuable resource. This post-industrial plastic waste in combination with agricultural plastic wastes are converted into Prime Plastic® pellet feedstock, a material that displaces virgin plastic in manufacturing processes. Transmutation's first product utilising this innovative material is the 50/65mm concrete bar chair. As part of the Life Cycle Analysis (LCA) undertaken during the EPD process for the product it was found that each bar chair had a total Global Warming Potential (GWP-total) of 0.0621 kg $CO_2$-eq per unit. A virgin plastic bar chair of the same weight (65 grams or 0.065 kg) typically generates around 0.130 kg $CO_2$-eq, based on standard emissions of 2.0 kg $CO_2$-eq per kg of virgin polypropylene or polyethylene. This means that Transmutations recycled bar chair produces 52.2% fewer GHG emissions. The Project has purchased 4,000 bar chairs in total.

Figure 1: Transmutation Bar Chairs in MFRO slab

Resourceful Living:

Resourceful Living partner with businesses to produce end to end solutions for sustainable product development, taking waste plastic and transforming it into innovative customised products for their Projects. Resourceful Living have supplied 350 wheel stops for the Project for the construction carpark which will be re-purposed for other materials during operations which promotes circular economy. Producing virgin HDPE emits around 1.8 to 2.5 tons of $CO_2$ per ton of plastic produced. Recycling HDPE typically reduces GHG emissions by 50% to 70% compared to producing virgin plastic, meaning that recycling one ton of HDPE saves around 0.9 to 1.75 tons of $CO_2$-e. Each wheel stop contains approximately 26kg of recycled plastic, therefore using the savings outlined above the sustainability benefit of the initial recycling is: (350 x 26 ÷ 1000) x 1.8 (lower range of emissions) = 16.38 t $CO_2$-e avoided at a minimum.

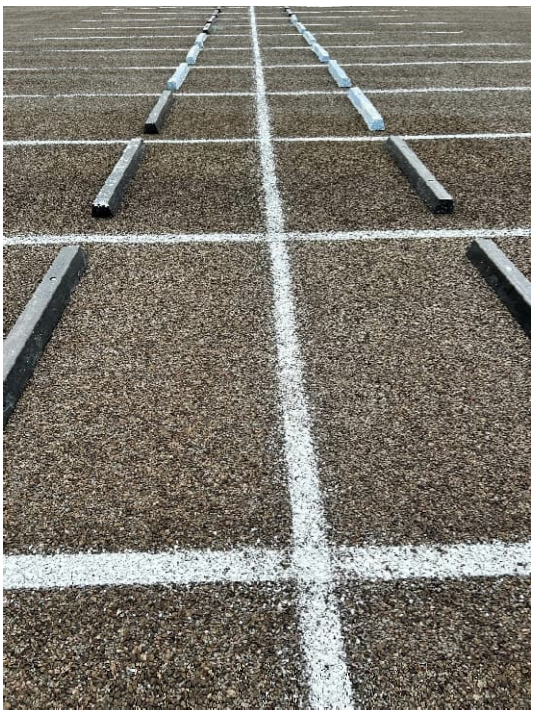


Figure 2: Resourceful Living wheel stops in the site car park.

Brine Reuse Research:

The Project has identified brine as a significant waste stream during the Project's Operational phase. Therefore, the team have engaged with the University of Newcastle to conduct research that explores options to utilise brine as a material that can store energy and other applications to use brine in a circular economy context such as chlorine production. Hunter Water committed $30,000 to the project on the 20 November 2024 with the University of Newcastle matching the commitment on 4 December 2024. This agreement has therefore committed Hunter Water to financially commit funding to research into the potential uses for the waste brine through the production of value-added products, as well as improving desalination plant energy efficiency. Overall, the objectives outlined on have the capacity to make the desalination plant more self-sufficient both materially and from an energy efficiency perspective, which ultimately improves water security in the community.

In addition to these innovations the project has implemented two previously verified Australian first innovations. Additionally, the project team also have a Technical Clarification in review with the ISC Technical Panel to recognise the use of the John Holland AI Credit Summary Tool Form as an Australian First.

# 4 Sustainable Procurement

The team are continuing to work closely with the procurement team to meet contract targets, as well as explore opportunities for collaboration and innovation with suppliers. The team have recently revised the subcontractor pack provided to tender participants to better engage with potential suppliers at an earlier stage and provide greater clarity around project targets and sustainability opportunities. The sustainability team is reviewing subcontractor questionnaires and assigning scores on subcontractors' responses to the project's sustainability requirements.

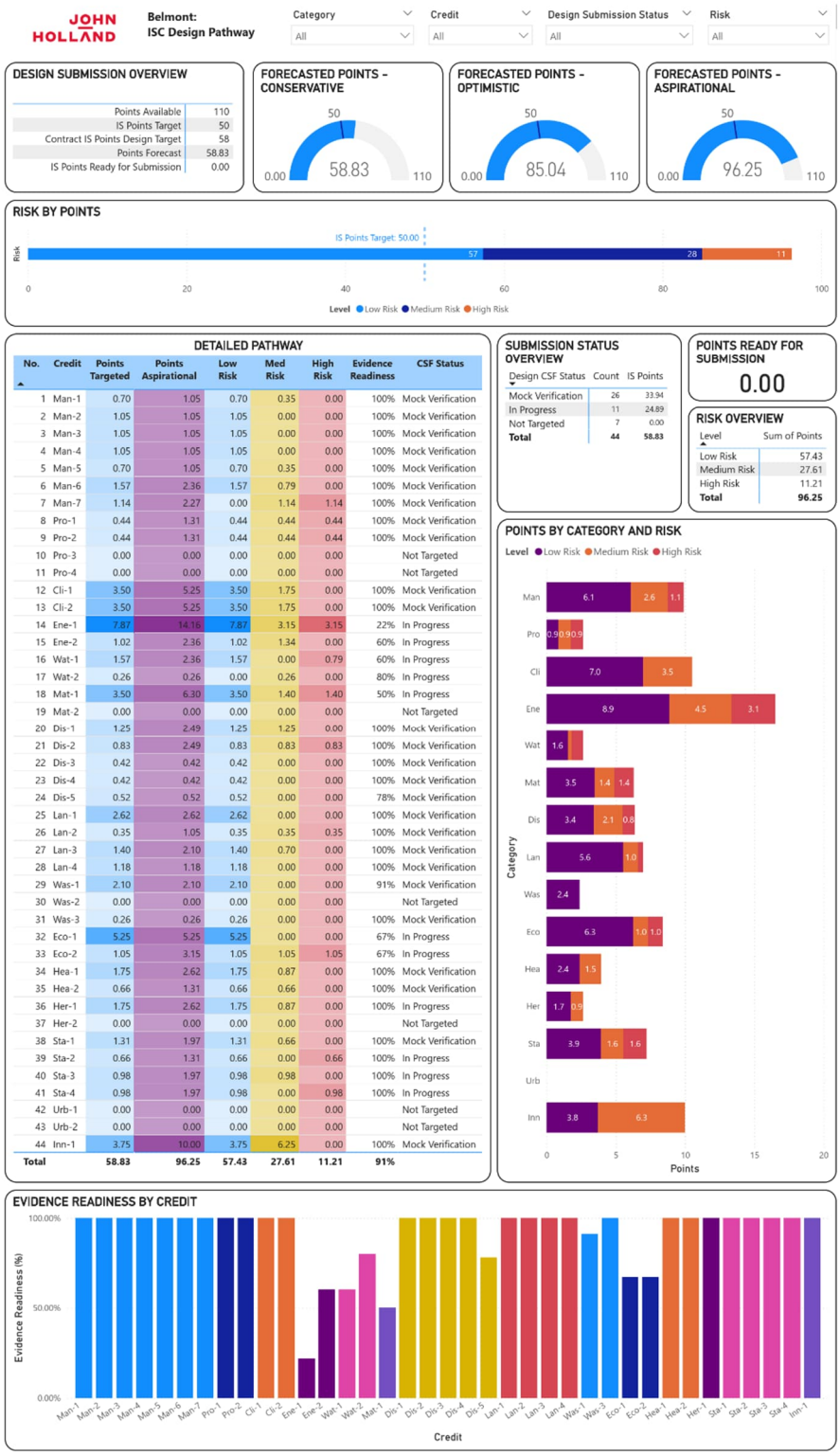
The team have also continued to engage with high impact suppliers, particularly for the project's concrete and asphalt supply. This ongoing engagement will ensure that the project is able to meet its sustainability targets, as well as ensure that any potential innovation opportunities in this space are explored.

All subcontract packages and questionnaires including a question regarding modern slavery. This question is "Does your organisation have an Anti-Modern Slavery Policy and/or Statement in place and does your organisation assess and manage Modern Slavery risks and impacts in its supply chain specifically? Please provide examples" This answer to this question along with other sustainability-based question is used to score the subcontractor and how will they conform with the requirements.

# 5 Sustainable Data

## 5.1 ISC Scorecard Projections

Figure 1 below presents the ISC Scorecard. The Project currently has a conservative forecast of 58.83 points, meeting the contractual target of 58 points and achieving an 'Excellent' rating under the ISC 1.2 version framework. The optimistic forecast suggests a potential score of 85.05 points out of a possible score of 110, which would correspond to a 'Leading' rating.




| No. | Credit | Points Targeted | Points Aspirational | Low Risk | Med Risk | High Risk | Evidence Readiness | CSF Status |
|---|---|---|---|---|---|---|---|---|
| 1 | Man-1 | 0.70 | 1.05 | 0.70 | 0.35 | 0.00 | 100% | Mock Verification |
| 2 | Man-2 | 1.05 | 1.05 | 1.05 | 0.00 | 0.00 | 100% | Mock Verification |
| 3 | Man-3 | 1.05 | 1.05 | 1.05 | 0.00 | 0.00 | 100% | Mock Verification |
| 4 | Man-4 | 1.05 | 1.05 | 1.05 | 0.00 | 0.00 | 100% | Mock Verification |
| 5 | Man-5 | 0.70 | 1.05 | 0.70 | 0.35 | 0.00 | 100% | Mock Verification |
| 6 | Man-6 | 1.57 | 2.36 | 1.57 | 0.79 | 0.00 | 100% | Mock Verification |
| 7 | Man-7 | 1.14 | 2.27 | 0.00 | 1.14 | 1.14 | 100% | Mock Verification |
| 8 | Pro-1 | 0.44 | 1.31 | 0.44 | 0.44 | 0.44 | 100% | Mock Verification |
| 9 | Pro-2 | 0.44 | 1.31 | 0.44 | 0.44 | 0.44 | 100% | Mock Verification |
| 10 | Pro-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 11 | Pro-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 12 | Cli-1 | 3.50 | 5.25 | 3.50 | 1.75 | 0.00 | 100% | Mock Verification |
| 13 | Cli-2 | 3.50 | 5.25 | 3.50 | 1.75 | 0.00 | 100% | Mock Verification |
| 14 | Ene-1 | 7.87 | 14.16 | 7.87 | 3.15 | 3.15 | 22% | In Progress |
| 15 | Ene-2 | 1.02 | 2.36 | 1.02 | 1.34 | 0.00 | 60% | In Progress |
| 16 | Wat-1 | 1.57 | 2.36 | 1.57 | 0.00 | 0.79 | 60% | In Progress |
| 17 | Wat-2 | 0.26 | 0.26 | 0.00 | 0.26 | 0.00 | 80% | In Progress |
| 18 | Mat-1 | 3.50 | 6.30 | 3.50 | 1.40 | 1.40 | 50% | In Progress |
| 19 | Mat-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 20 | Dis-1 | 1.25 | 2.49 | 1.25 | 1.25 | 0.00 | 100% | Mock Verification |
| 21 | Dis-2 | 0.83 | 2.49 | 0.83 | 0.83 | 0.83 | 100% | Mock Verification |
| 22 | Dis-3 | 0.42 | 0.42 | 0.42 | 0.00 | 0.00 | 100% | Mock Verification |
| 23 | Dis-4 | 0.42 | 0.42 | 0.42 | 0.00 | 0.00 | 100% | Mock Verification |
| 24 | Dis-5 | 0.52 | 0.52 | 0.52 | 0.00 | 0.00 | 78% | Mock Verification |
| 25 | Lan-1 | 2.62 | 2.62 | 2.62 | 0.00 | 0.00 | 100% | Mock Verification |
| 26 | Lan-2 | 0.35 | 1.05 | 0.35 | 0.35 | 0.35 | 100% | Mock Verification |
| 27 | Lan-3 | 1.40 | 2.10 | 1.40 | 0.70 | 0.00 | 100% | Mock Verification |
| 28 | Lan-4 | 1.18 | 1.18 | 1.18 | 0.00 | 0.00 | 100% | Mock Verification |
| 29 | Was-1 | 2.10 | 2.10 | 2.10 | 0.00 | 0.00 | 91% | Mock Verification |
| 30 | Was-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 31 | Was-3 | 0.26 | 0.26 | 0.26 | 0.00 | 0.00 | 100% | Mock Verification |
| 32 | Eco-1 | 5.25 | 5.25 | 5.25 | 0.00 | 0.00 | 67% | In Progress |
| 33 | Eco-2 | 1.05 | 3.15 | 1.05 | 1.05 | 1.05 | 67% | In Progress |
| 34 | Hea-1 | 1.75 | 2.62 | 1.75 | 0.87 | 0.00 | 100% | Mock Verification |
| 35 | Hea-2 | 0.66 | 1.31 | 0.66 | 0.66 | 0.00 | 100% | Mock Verification |
| 36 | Her-1 | 1.75 | 2.62 | 1.75 | 0.87 | 0.00 | 100% | In Progress |
| 37 | Her-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 38 | Sta-1 | 1.31 | 1.97 | 1.31 | 0.66 | 0.00 | 100% | Mock Verification |
| 39 | Sta-2 | 0.66 | 1.31 | 0.66 | 0.00 | 0.66 | 100% | In Progress |
| 40 | Sta-3 | 0.98 | 1.97 | 0.98 | 0.98 | 0.00 | 100% | In Progress |
| 41 | Sta-4 | 0.98 | 1.97 | 0.98 | 0.00 | 0.98 | 100% | In Progress |
| 42 | Urb-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 43 | Urb-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | Not Targeted |
| 44 | Inn-1 | 3.75 | 10.00 | 3.75 | 6.25 | 0.00 | 100% | Mock Verification |
| **Total** | | **58.83** | **96.25** | **57.43** | **27.61** | **11.21** | **91%** | |

Figure 3: ISC Design Pathway.

## 5.2 Energy & Emissions

### 5.2.1 Electricity

The figures below detail the electricity and fuel usage on the BDP Project from JH's PPW database. Electricity for the Project is sourced through Hunter Water's grid connection, which is supplied under a power purchase agreement with AGL, providing 20% GreenPower. This percentage is anticipated to increase over the next two years, further supporting the Project's commitment to sustainable energy practices.

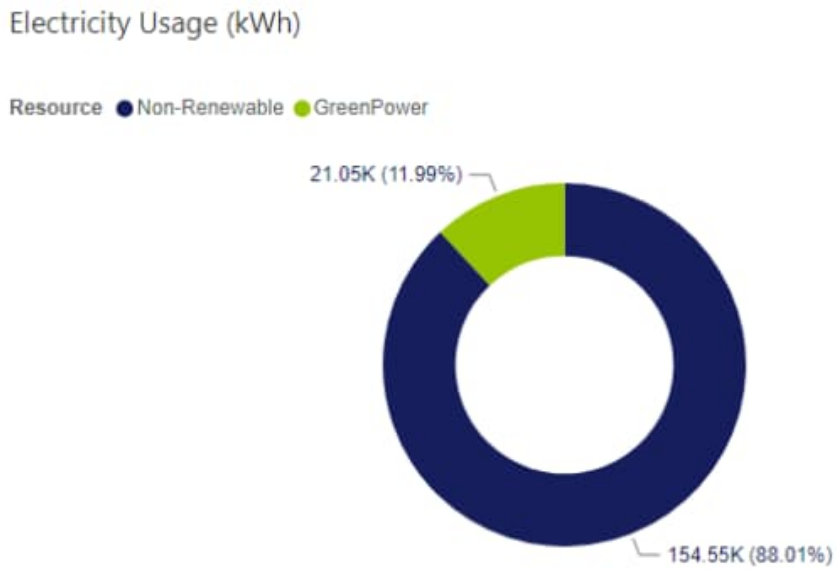



Figure 4: Project electricity usage.


Figure 5: Month by month breakdown of the fuel usage on the Project.

### 5.2.1 Fuel

The Project has implemented a 5% renewable diesel policy for all fuel suppliers and subcontractors using diesel fuel, in alignment with John Holland's sustainability policies. While one supplier was unable to utilize biodiesel, they have instead sourced 5% Hydrotreated Vegetable Oil (HVO) as an alternative, ensuring compliance with our commitment to reducing GHG emissions and promoting the use of renewable fuel sources.

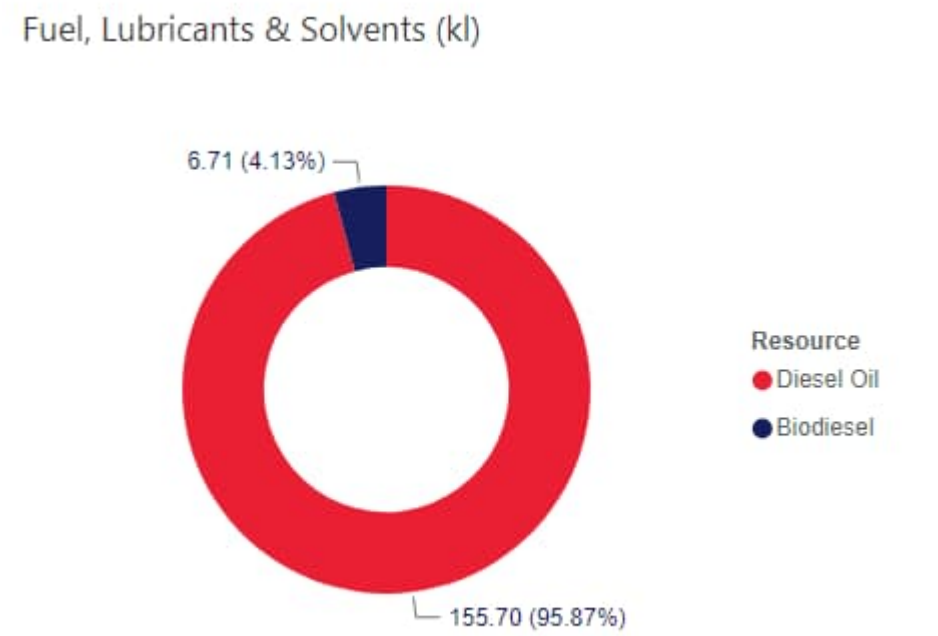



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Figure 6: Project fuel usage.

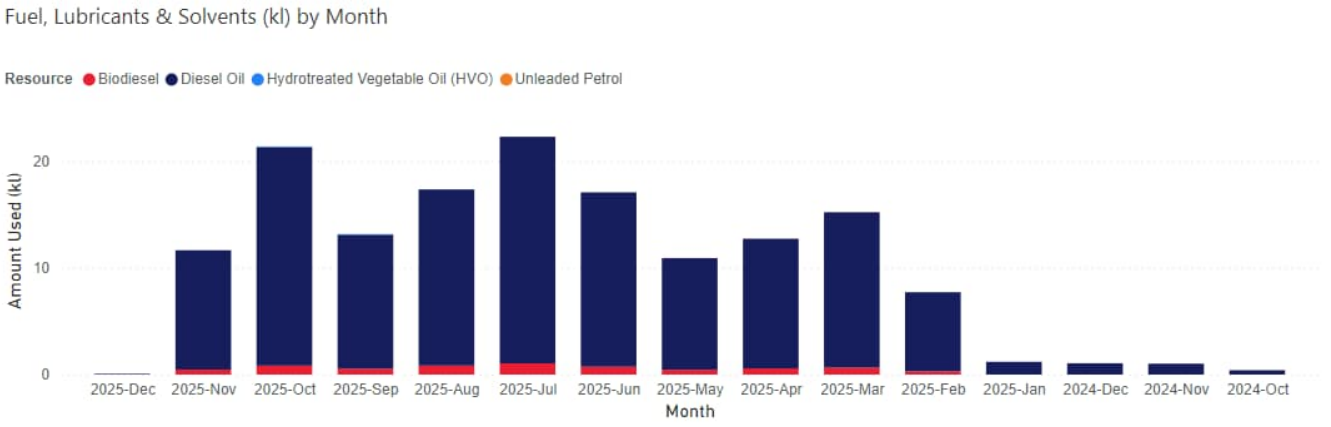


Figure 7: Month by month breakdown of the fuel usage on the Project.

## 5.3 Water

The figures below outline water usage on the BDP Project, where potable water is sourced from HW mains. Due to the site's location and the limited quality of groundwater, opportunities for storage or reuse of water remain limited. Additionally, these opportunities have not been implemented as there is no need specified in the contract. However, the Project is committed to exploring options for potable water reuse throughout the construction phase to enhance sustainability and resource efficiency. The Project is investigating the use of non-potable water in the hydrostatic testing and commissioning stage.

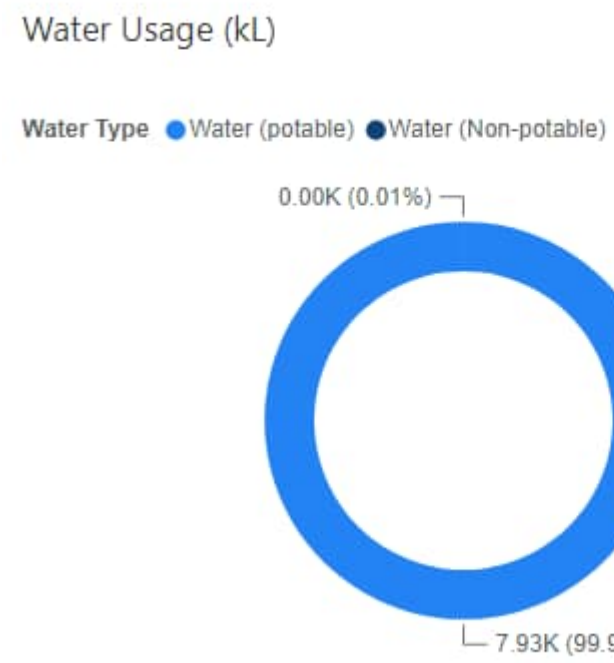


Figure 8: Project water usage.

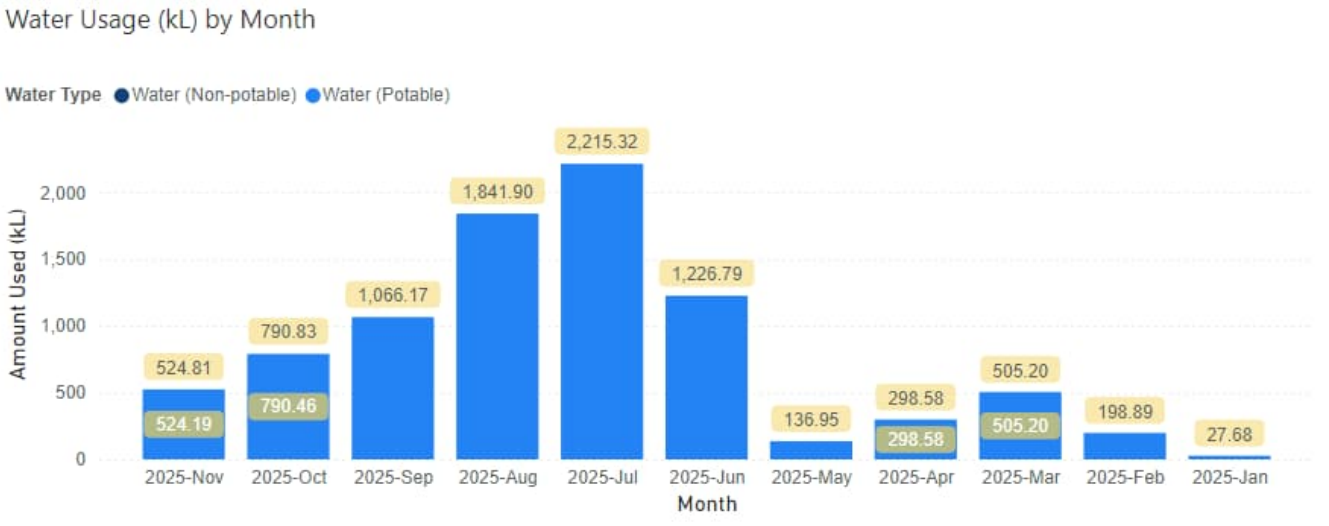


Figure 9: Month by month breakdown of the water usage on the Project.

## 5.4 Materials

In the past year, John Holland has continued to prioritise the use of high-quality, sustainable, and innovative materials to support the delivery of the Belmont Desalination Plant Project. By leveraging advancements in material production and focusing on concrete and steel, we have ensured that our material selection aligns with both Hunter Waters expectations and environmental responsibilities. This approach will enable the project to track the percentage reduction in embodied carbon directly contributing to the Project's sustainability objectives and targets. Looking ahead, we remain committed to exploring new opportunities to enhance material efficiency and promote sustainable outcomes.

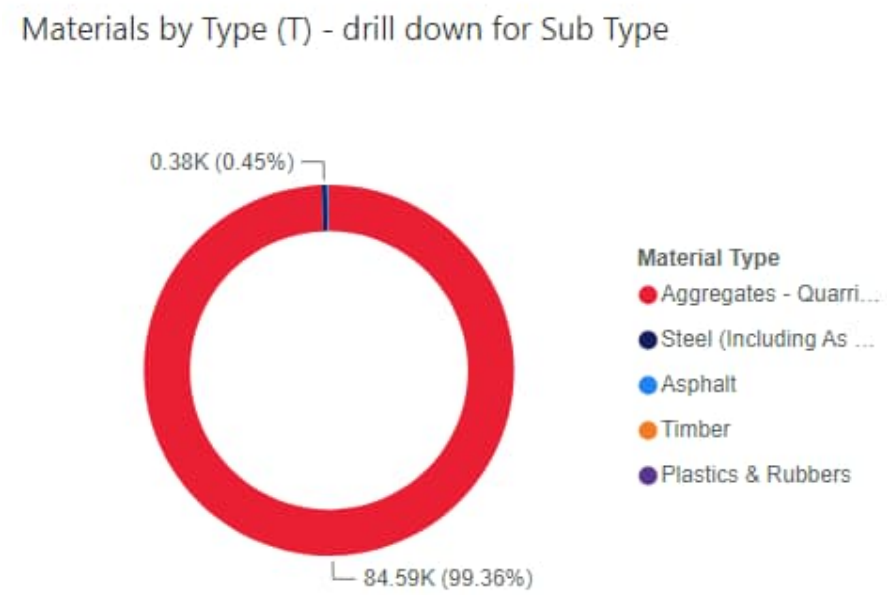


Figure 10: Materials by tonnage procured on the Project.

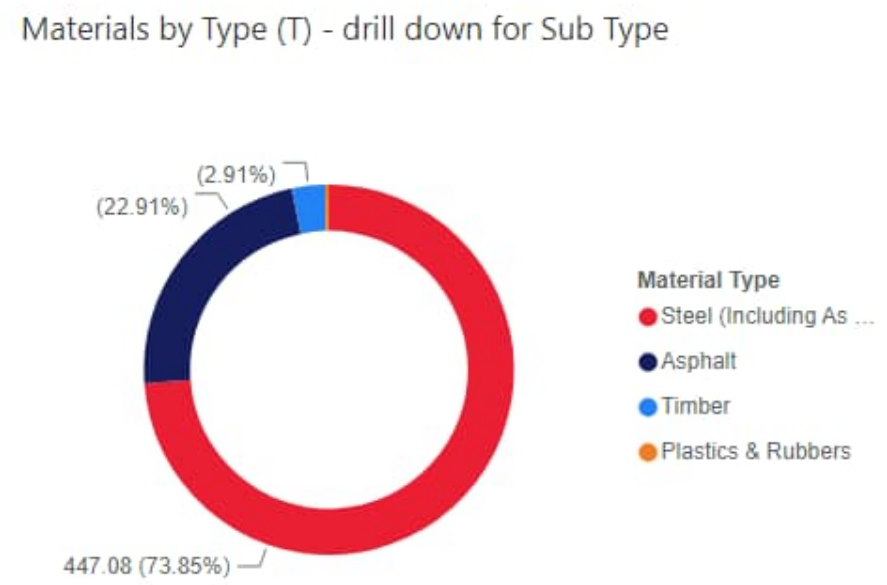


Figure 11: Materials by tonnage procured on the Project excluding aggregates.

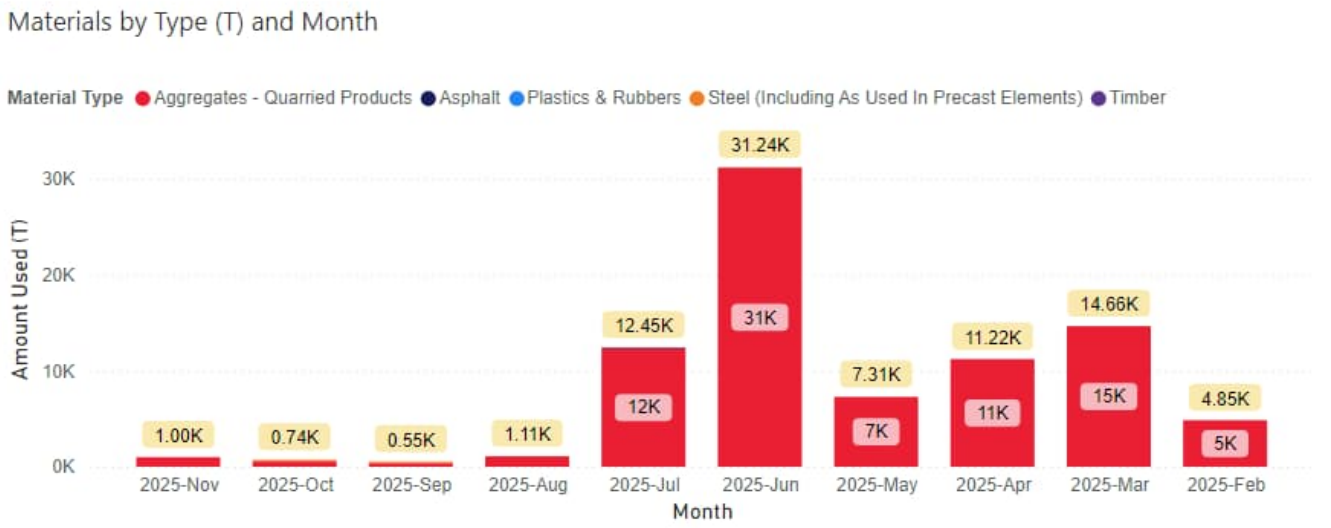


Figure 12: Month by month breakdown of the materials procured on the Project.

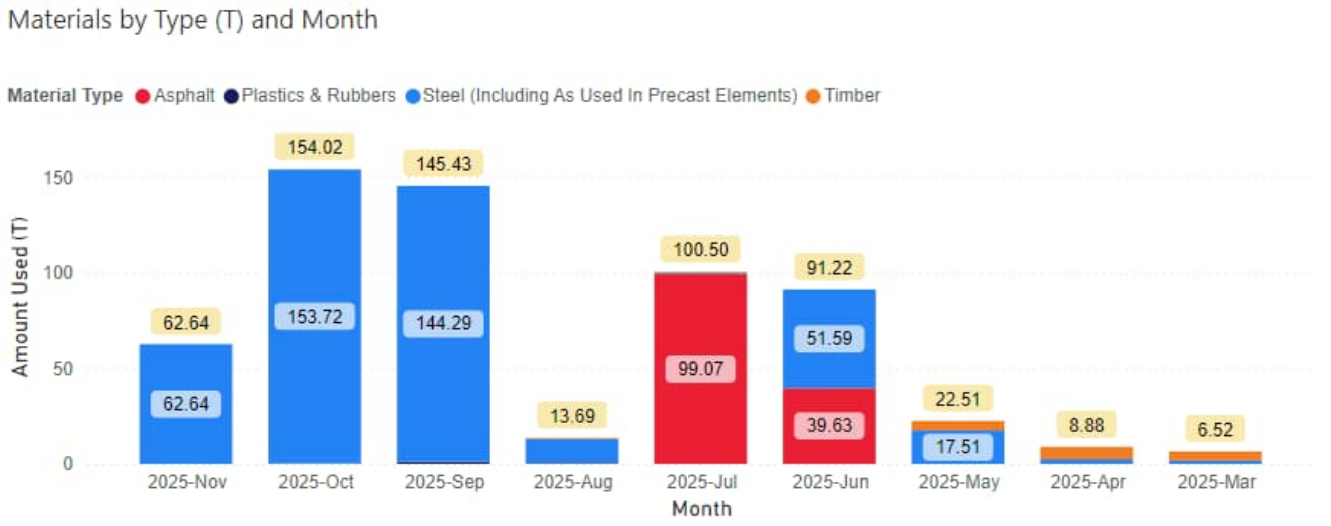


Figure 13 Month by month breakdown of the materials procured on the Project excluding aggregates.

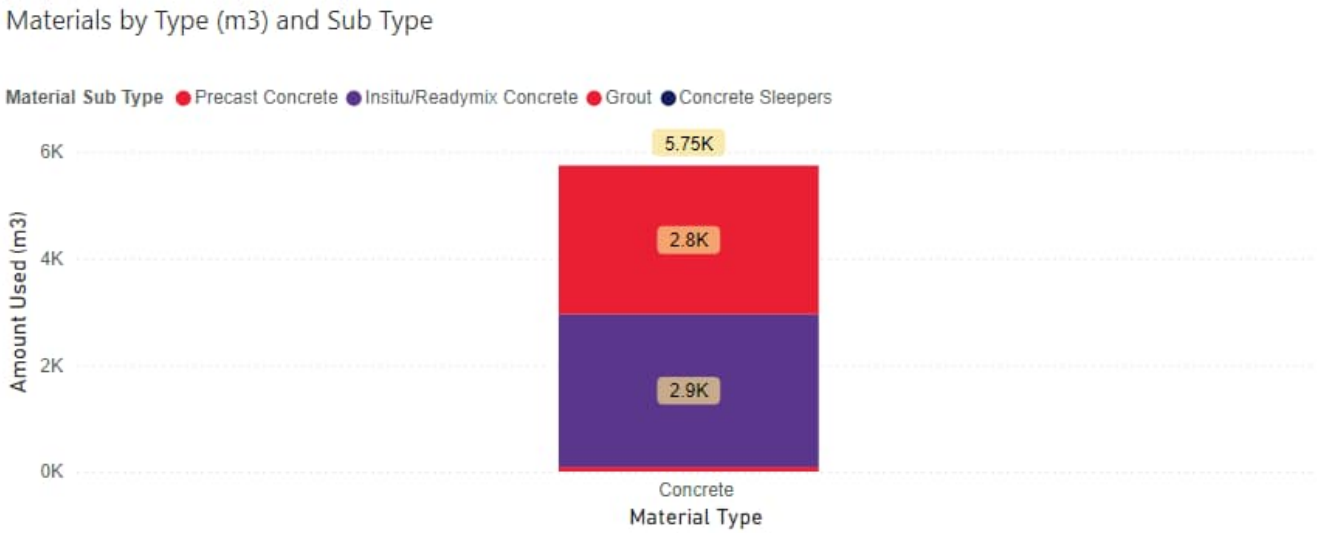


Figure 14: Type of concrete procured for the Project.

**Note**: Figure 12 shows ready-mix and grout making up 2.9k and 2.8k $m^3$ respectfully.

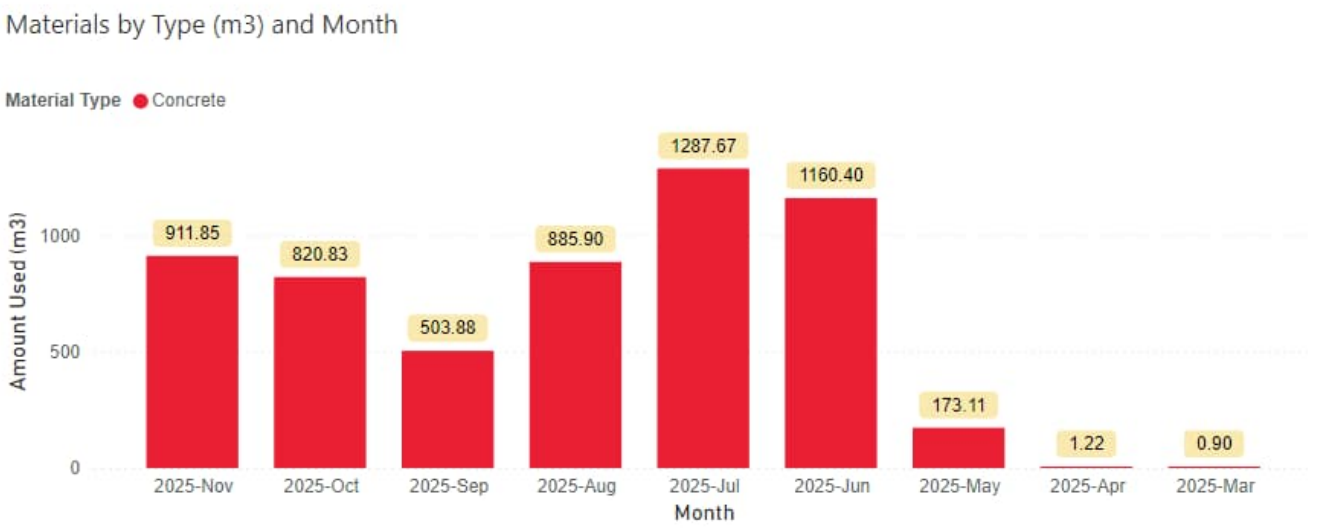


Figure 15: Month by month breakdown of the concrete procured on the Project.

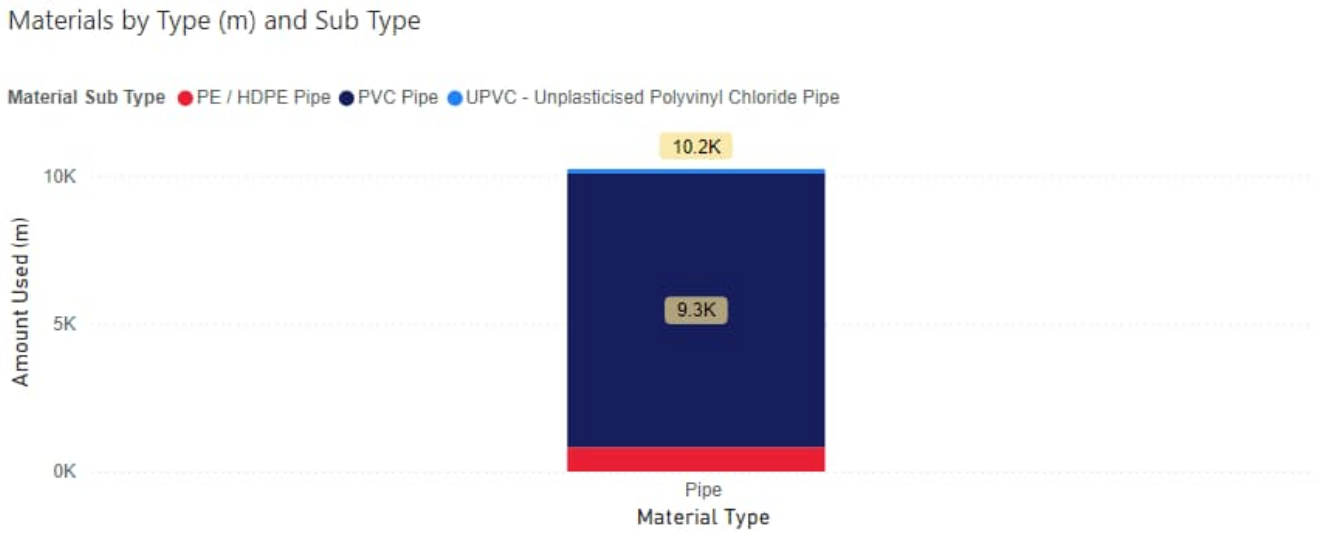


Figure 16: Breakdown of different pipe used on the Project.

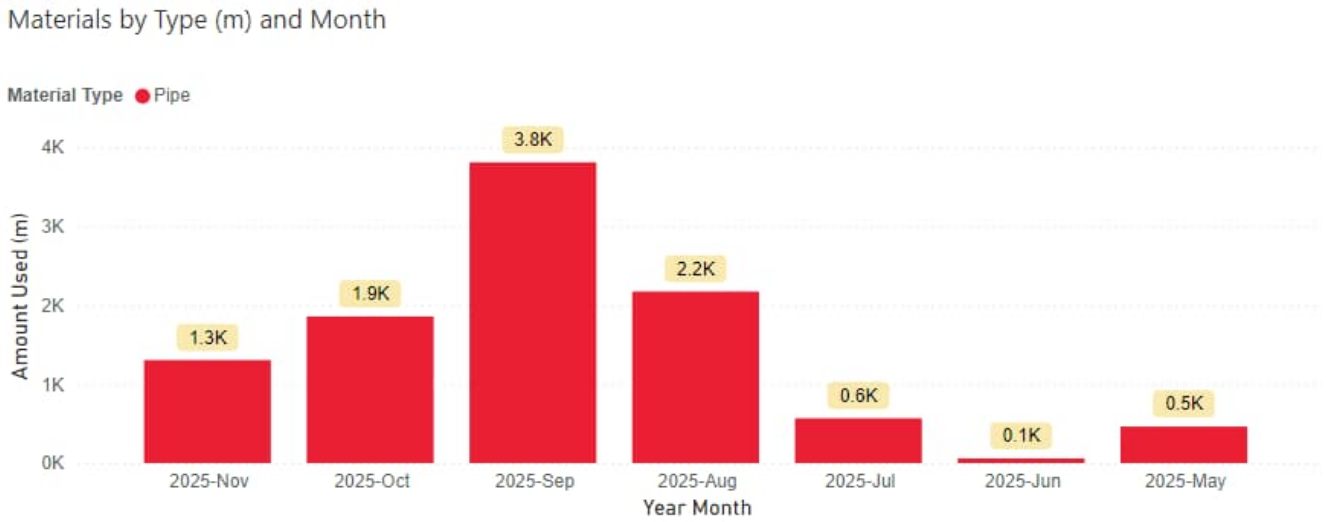


Figure 17: Month by month breakdown of the pipe procured on the Project.

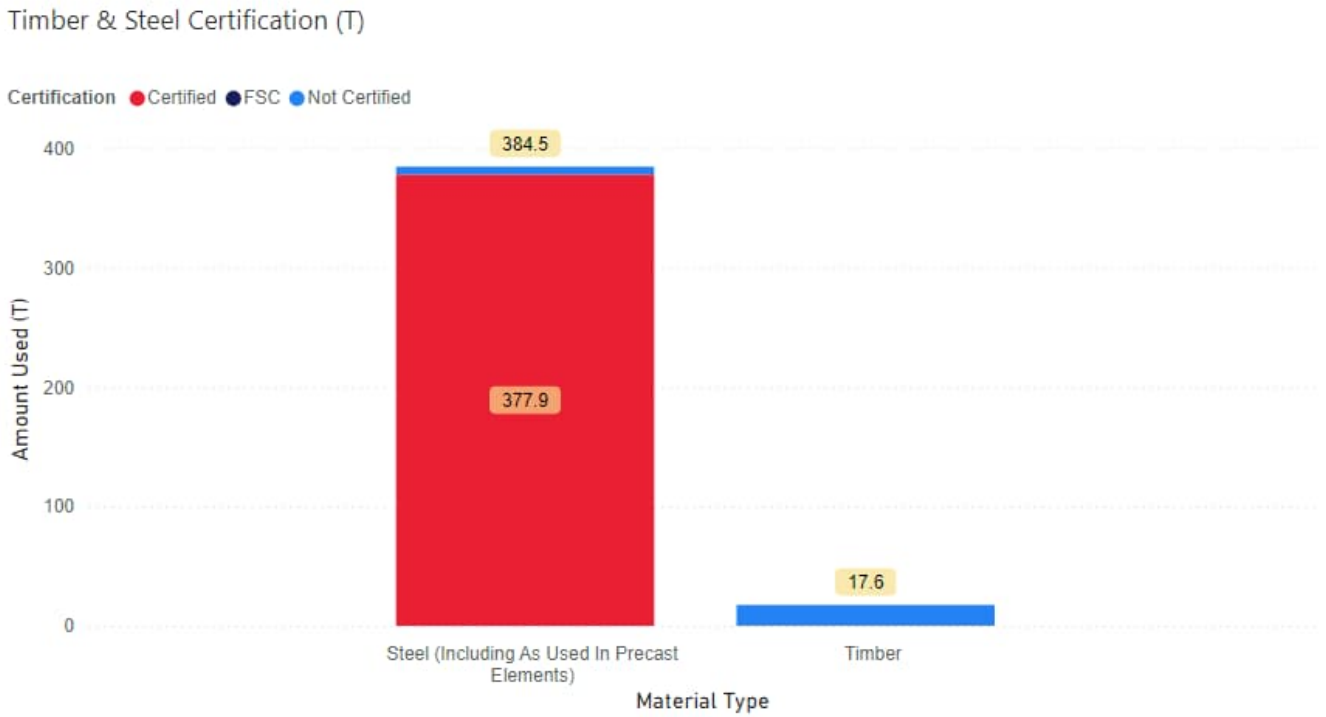


Figure 18: Total steel and timber procured on the Project