

THE STEEL TUBULARS,

METAL RECYCLING AND

DECOMMISSIONING EXPERTS

John Lawrie Tubulars

The Environmental Benefits of Repurposing Tubular Steel from North Sea Oil and Gas Fields

January 2021



METALS | TUBULARS | DECOM

johnlawrie.com



Introduction

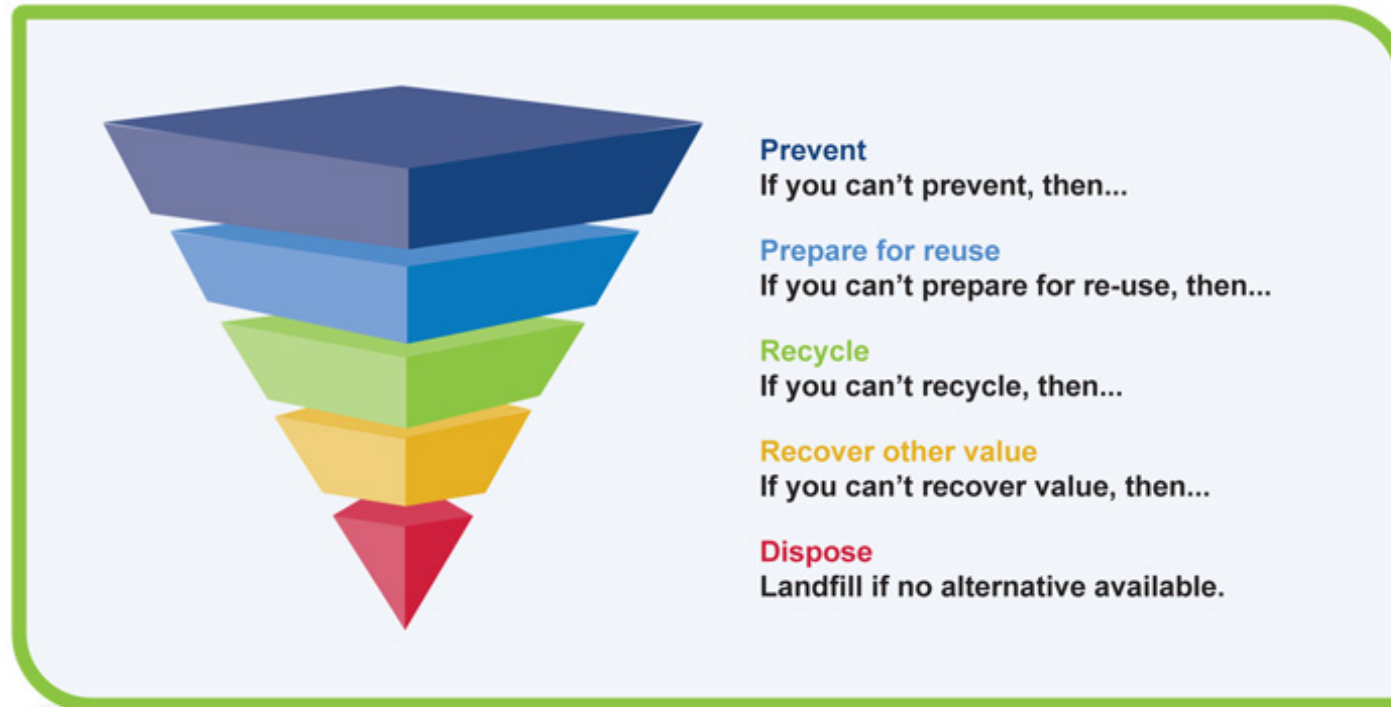
- Circular economy
- Life Cycle Assessment
- The study
- The results
- Reporting



Circular Economy

Aim: “To accelerate the transition from a linear to a circular economy”

We continually seek new ways to reuse, repurpose and recycle redundant materials in order to deliver significant environmental and monetary benefits for a sustainable future for our employees, clients, customers and communities.





Life Cycle Assessment

- Why?
 - To compare the benefits of repurposed tubulars to those made from prime steel throughout their lifecycle.
 - To confirm the bespoke environmental impacts and benefits of the repurposing and onward delivery of John Lawrie Tubulars' products.
- Including:
 - The direct environmental benefits on a like for like basis.
 - The inbound supply scenarios of prime steel products supplied from the European Union (EU) (Czech Republic).
 - John Lawrie Tubulars distribution scenarios (outbound) within the UK and internationally to the USA and EU.



Life Cycle Assessment

- Employed the services of third party, Giraffe Innovation Limited
- Site visit and data gathering exercise to determine JLT energy usage from 2015-2019
- Full analysis of road transport usage between quayside, repurposing site, and final client
- Full analysis of production within key production countries within Europe, Asia and the USA
- Full analysis of import / export and distribution of new products
- Analysis covered new prime steel products



The Current Industry Average

970kg CO₂e saving per tonne of recycled steel

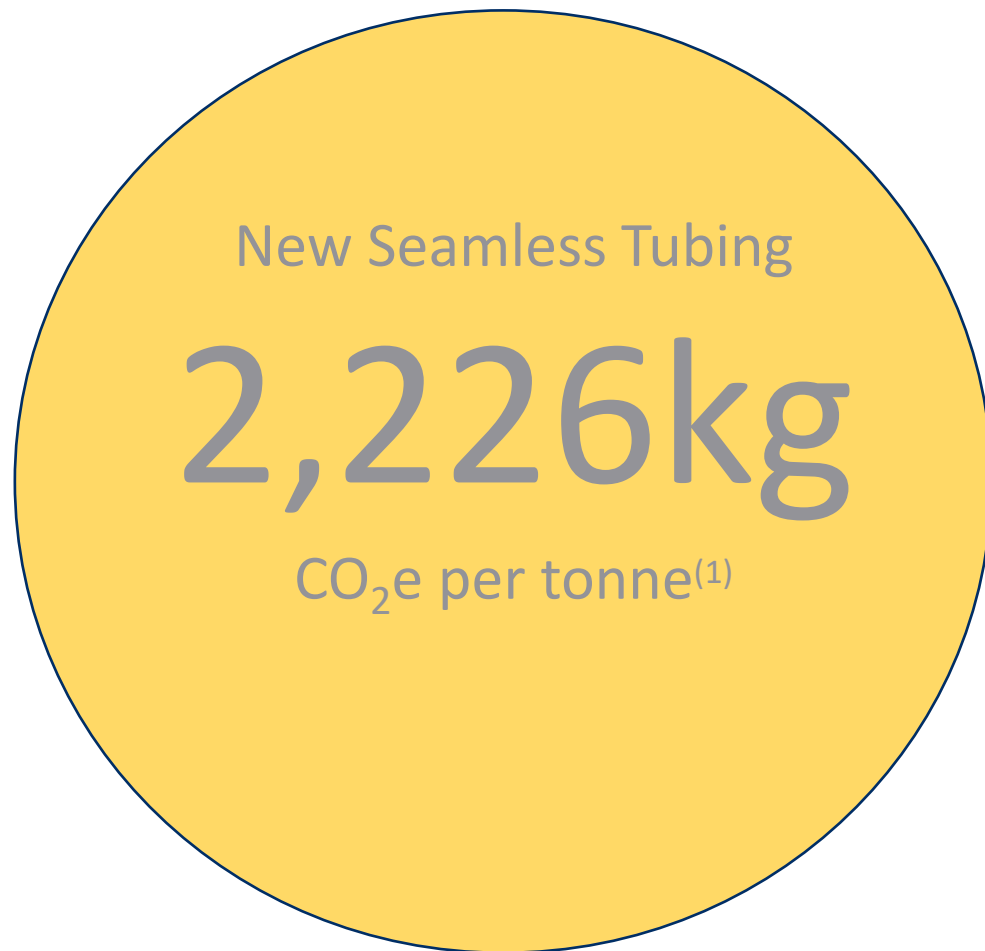
BUT:

- Relates to recycled steel – not *repurposed* tubulars
- Steel recycling process involves additional shipping, high energy smelting and redistribution
- Not relevant to our energy and emissions efficient tubulars management process



The Results

Comparing the benefits of repurposed tubulars to those made from prime steel throughout their lifecycle.



John Lawrie Repurposed Tubulars

62kg

CO₂e per tonne⁽²⁾

97.3%
emissions reduction

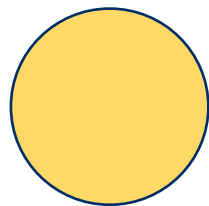
(1) World Steel Association (WSA) global average data. Qualification note: WSA data has been updated to the current ecoinvent data set and CML methodology.

(2) Giraffe November 2020 Life Cycle Assessment Report - John Lawrie Tubulars – The Environmental Benefits from Repurposing Tubular Steel from North Sea Oil and Gas Fields.



The Results

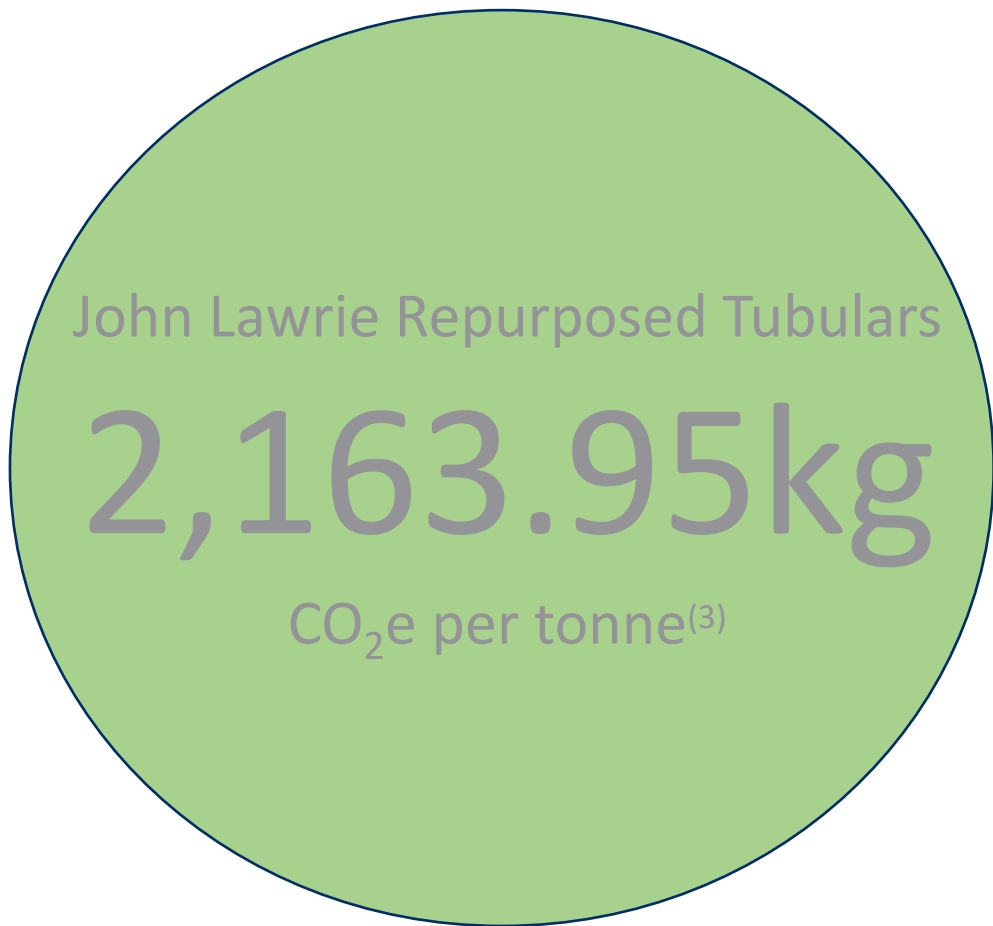
Confirming the bespoke environmental impacts and benefits of the repurposing and onward delivery of John Lawrie Tubulars' products.



Recycling redundant steel tubulars

970kg

CO₂e per tonne



(3) Giraffe November 2020 Life Cycle Assessment Report - John Lawrie Tubulars – The Environmental Benefits from Repurposing Tubular Steel from North Sea Oil and Gas Fields.

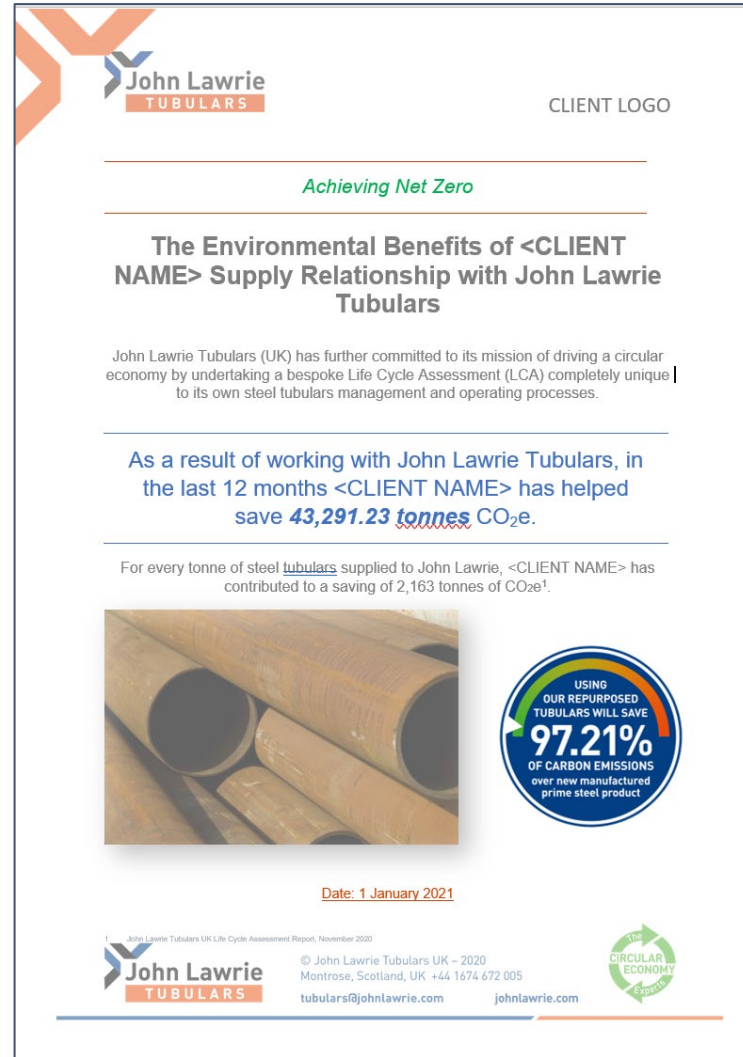


Example Supplier Savings

➤ Using John Lawrie Tubulars:

Length	Diameter / Lbs	Saving
100 ft	5 ½ inch / 20lbs	1,962kg CO ₂ e
100 ft	7 inch / 29lbs	2,845kg CO ₂ e
100 ft	9 5/8 inch / 53.5lbs	5,249kg CO ₂ e

- Example supplier report
- Issued annually, quarterly, monthly, or by project



The image shows a sample cover page for a supplier report from John Lawrie Tubulars. The page features the company logo in the top left, a placeholder for a client logo in the top right, and the title 'Achieving Net Zero'. The main heading is 'The Environmental Benefits of <CLIENT NAME> Supply Relationship with John Lawrie Tubulars'. The text describes the company's commitment to a circular economy and highlights a key achievement: 'As a result of working with John Lawrie Tubulars, in the last 12 months <CLIENT NAME> has helped save 43,291.23 tonnes CO₂e.' A photograph of steel tubulars is shown on the left, and a circular graphic on the right states 'USING OUR REPURPOSED TUBULARS WILL SAVE 97.21% OF CARBON EMISSIONS over new manufactured prime steel product'. The date '1 January 2021' is printed below the photo. The footer includes the John Lawrie Tubulars logo, contact information, and a 'The Circular Economy Expert' logo.

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CLIENT LOGO

Achieving Net Zero

The Environmental Benefits of <CLIENT NAME> Supply Relationship with John Lawrie Tubulars

John Lawrie Tubulars (UK) has further committed to its mission of driving a circular economy by undertaking a bespoke Life Cycle Assessment (LCA) completely unique to its own steel tubulars management and operating processes.

As a result of working with John Lawrie Tubulars, in the last 12 months <CLIENT NAME> has helped save **43,291.23 tonnes** CO₂e.

For every tonne of steel tubulars supplied to John Lawrie, <CLIENT NAME> has contributed to a saving of 2,163 tonnes of CO₂e¹.

USING OUR REPURPOSED TUBULARS WILL SAVE 97.21% OF CARBON EMISSIONS over new manufactured prime steel product

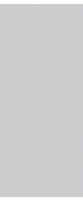
Date: 1 January 2021

¹ John Lawrie Tubulars UK Life Cycle Assessment Report, November 2020

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THE CIRCULAR ECONOMY
Expert



Appendix

Case Study



TUBULARS
CASE STUDY

P&J LIVE BUILDING

Reuse and recycling have been a cornerstone of John Lawrie Group since its founding in the 1930s, delivering significant environmental and monetary benefits to customers during that time. Through our tubulars and metals divisions, we are a strong advocate of the circular economy, understanding the value the model provides to customers, particularly when faced with tightening environmental legislation, establishing zero waste strategies and reducing their carbon footprint.

Highlights

Client:	The Event Complex Aberdeen
Location:	Stoneywood, Aberdeen
Project:	Supplied steel casing pipe for use as piling
Casing Pipe:	22,000m

The P&J Live Arena, Aberdeen's state-of-the-art conference, exhibition and entertainment complex opened in 2019, boasts foundations made from oil and gas pipe and casing which have been repurposed and reused into piling posts. John Lawrie supplied 22,000 metres of previously used pipes and casing to the project contractor, Northern Piling Limited, which then utilised the pipes for setting the foundations of the new arena.

For the project we supplied more than 2,000 tonnes of pipe and casing, safely recycled from the oilfield wells of Aberdeen's major North Sea operators and supply chain companies. The redundant materials were then reprocessed at our Montrose facility.

Project Summary

22,000 metres of previously used casing pipe were delivered onsite to Northern Piling Limited which then installed approximately 1,750 piles throughout the duration of the six-month project. The pile lengths varied in size, between 12m to 19m for a combination of 244mm and 273mm casings.

Today, at our facilities in Scotland and the United States, John Lawrie Tubulars holds a stock of around 100,000 tonnes of steel tubulars that is suitable for use in piling and micro-piling projects in the construction and civil engineering sectors globally.

To date, we have supplied over 2 million tonnes of steel tubulars for use as piling pipe, which has minimised waste, saved an equal volume of CO₂ emissions and helped establish a more robust economy. Reusing steel casing pipe as steel piling pipe demonstrates the innovative thinking required to fully realise the potential of the circular economy.



UK MONTROSE | SCUNTHORPE | USA HOUSTON
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For the P&J Live Arena using John Lawrie Tubulars steel rather prime steel (materials only) saved **~4,165.7tonnes** CO₂e⁽⁵⁾. This is equivalent to:

- **616** UK citizens annual carbon footprint;
- Driving a Ford Focus **29,414,000 miles** (47,337,500Km) which is the same as driving around the circumference of Planet Earth 1181.2 times;
- **90,166kg** of beef which would produce enough patties for over 1 million (1,001,8441) burgers sold in a well-known high street restaurant;
- Streaming Netflix22 on a 55" OLED TV continuously (24 hours a day) for **4,043** years in the UK;
- The CO₂ absorbed by **10.4** hectares of UK forestry per annum which is equivalent to **17** football pitches; and
- The amount of CO₂ absorbed by **4,165** trees in 100 years.

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UK ABERDEEN | EVANTON | LERWICK | MONTROSE | USA HOUSTON



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