



**REYNOLDS**

**THERE'S POWER IN NUMBERS**



**ENVIRONMENTAL IMPACT STUDY**

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## Reynolds Technology announces **ENVIRONMENTAL IMPACT STUDY**

Reynolds Technology has undertaken a thorough review of its UK manufacturing operation to both understand its carbon footprint and to help frame builders and bike buyers understand the environmental impact of their bike.

Reynolds has held a longstanding belief that steel framed bikes are a better choice for the planet. But even a steel or titanium framed bike creates a footprint. This is Reynolds attempt to estimate the size of the footprint we leave, and more importantly to initiate steps to make that footprint smaller.

Steel and titanium frames are inherently durable, long lived, easily repairable and are straight forward to recycle at end of life. They do not go to landfill. This is a fundamental advantage in choosing steel or titanium.

As a material, steel works well across every cycling discipline – urban mobility, mountain bikes, gravel, road, and does so with a low impact on the environment.

Stainless steel and titanium frames do not need to be painted. Removing the painting process eliminates the impact that this procedure has on the environment.

This study has challenged Reynolds to look closely at all aspects of our UK operation.

Here are the highlights.

It is not unusual to find Reynolds framed bikes over 40 years old, still used as intended, having had several refurbishments in their lifetime.



# Manufacture CO<sub>2</sub>e FOR FRAMES

These figures include inbound logistics.

These are representative for a conventional diamond frame.

Heat treatment takes place 2.25 miles from the Reynolds factory using commercial facilities and full batches wherever possible.

To make each **ferrous steel tube** is 2.15kg CO<sub>2</sub>e

To make each **titanium tube** is 6.74kg CO<sub>2</sub>e

To make each **stainless steel tube** is 7.43kg CO<sub>2</sub>e

This equates to a frameset ex-works CO<sub>2</sub>e of

Ferrous steel 17.20kg

Titanium 53.92kg

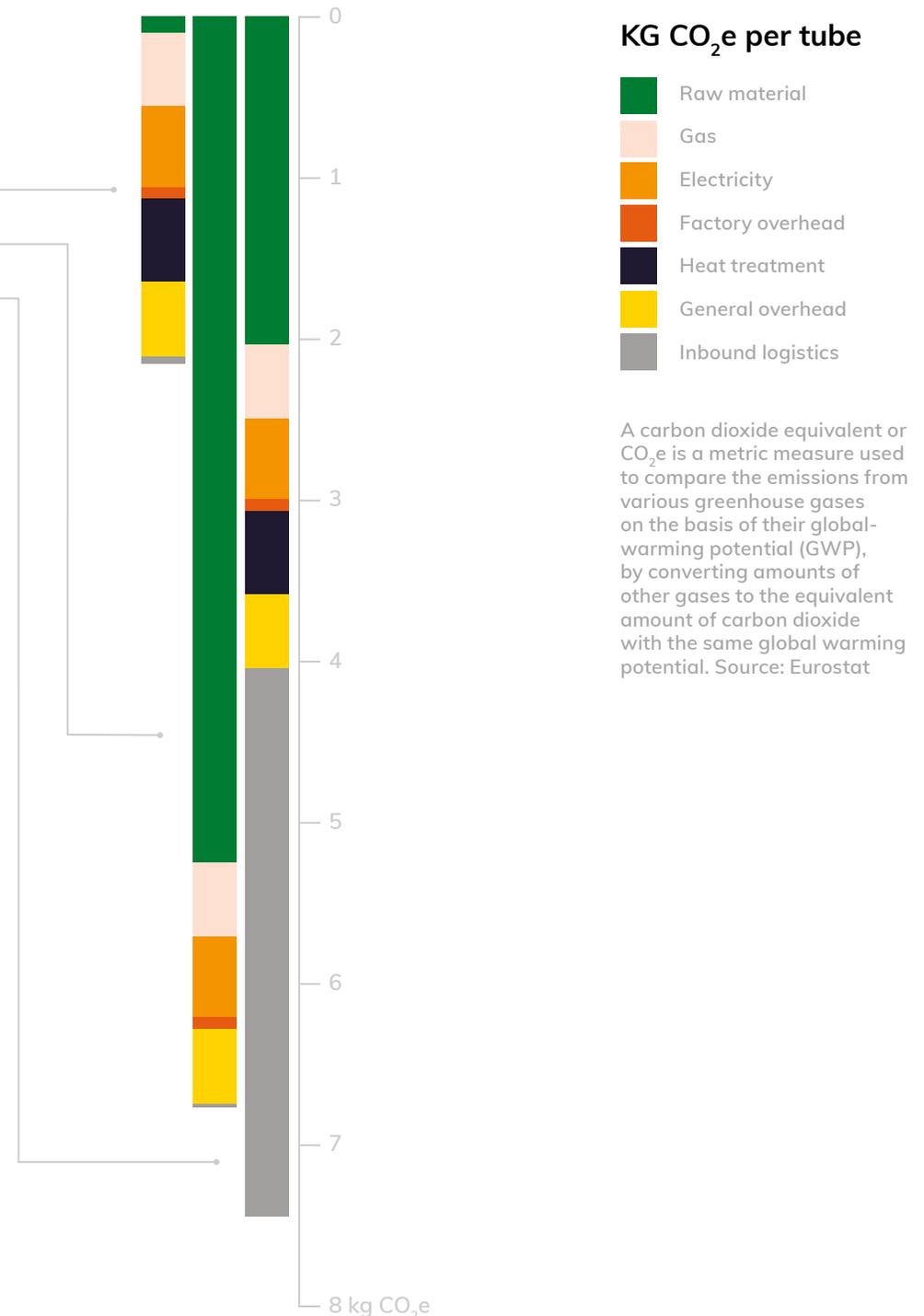
Stainless steel 59.44kg

## Why do we not differentiate between the different steel grades?

This is simply because the choice of grades varies from bike to bike – many frames use a mix of heat treated and non-heat treated tubes, high strength steel and chromoly. To keep things simple we have taken an average across all grades. The variation between a 525 and an 853 tube is smaller than the margin of error on these calculations.

## 100% Recycled Steel

We are proud that all of our steel comes from 100% recycled material.



Although airfreight is more expensive than sea freight, most customers opt for this due to the quicker and more predictable delivery.

## Airfreight

Our preconception that our gas and electricity usage would be the major part of the environmental impact has been shattered. The use of airfreight contributes nearly as much as gas and electricity combined. Logistics difficulties through the pandemic has shifted more shipments to airfreight.

This is now an active consideration, together with price and lead time, for all inbound and outbound logistics. It has shifted the mindset such that Reynolds will be actively working with suppliers and customers to plan better to avoid airfreight.

## Zero Landfill

All metallic waste from manufacturing is separated into ferrous, stainless steel and titanium then taken for recycling.

We are pleased to say that by choosing a state of the art waste collection service, none of our factory waste goes to landfill. We package all of our tubes in cardboard boxes, with minimal use of plastic.

## Global Travel

57% of employees, walk, cycle or take public transport to work.

The environmental impact of travelling to trade shows is significant, especially overseas and represents the majority of our non-production CO<sub>2</sub> generation. This has forced us to look very closely at which shows offer the best return to Reynolds, not just commercially but also environmentally. We are also seeking to minimize the number of employees sent to overseas shows and where possible to use local distributors to assist us.

All employees live within 14 miles of the factory.



## Factory Improvements

The Reynolds factory is over 50 years old and is not well insulated. We will be looking at better ways to insulate the factory to reduce the use of gas for heating in winter.

## Conclusion

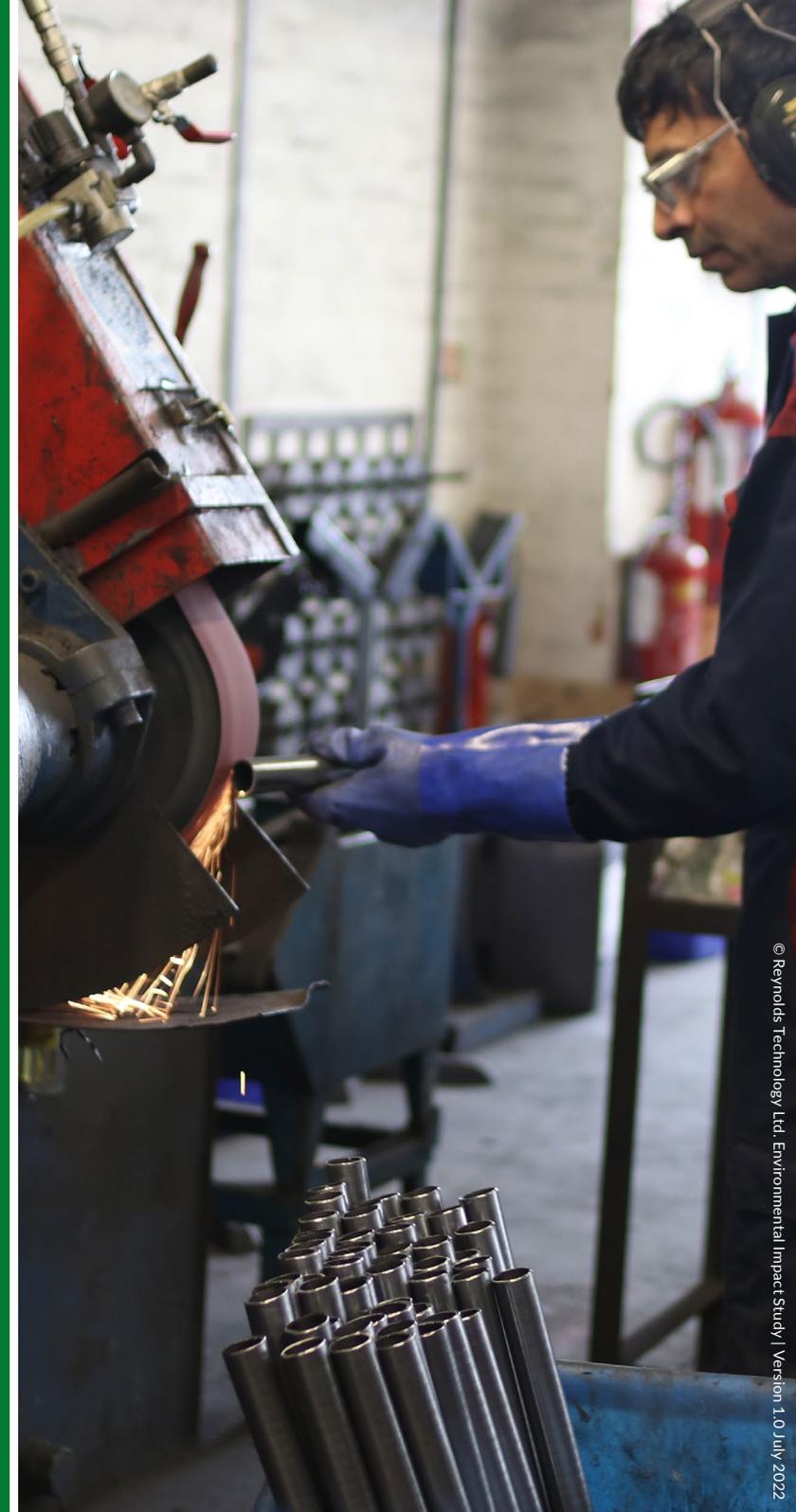
This study will help Reynolds to minimize the environmental impact of our manufacturing operations going forward. Reynolds is committed to not only making the best steel and titanium tubes the cycle industry has to offer, but to doing so in the most environmentally sustainable way.

## Data Sourcing

These figures reflect Reynolds' trading in 2021. As a result some figures are affected by trading and logistics conditions during the Covid-19 Pandemic.

It is challenging for a small company such as Reynolds to accurately determine all aspects of their carbon footprint. We have, wherever possible, used industry standard estimations for CO<sub>2</sub>e. It does mean that the figures in the report are estimates and should be read as such.

We intend to revisit these figures as better, and more industry specific calculations become available. We have not calculated CO<sub>2</sub>e for small items such as office consumables and factory maintenance, as they make an insignificant contribution to the total.



## Titanium recycling

Titanium recycling is not easy to quantify, especially as the bulk of Ti waste is machining swarf rather than end of life. We have not been able to find accurate up-to-date figures for the proportion of titanium that is re-processed. We have therefore assumed all our Ti is virgin material and as such the figures for titanium represent a worst case scenario.



We have not attempted to create equivalent values for aluminum or carbon fibre as this is outside of Reynolds area of expertise.

In creating this report we acknowledge the assistance of Warwick Manufacturing Group.

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