



# PATH360 OUR QUALIFYING CRITERIA

REQUIREMENTS FOR CASTROL PRODUCTS  
AND SERVICES TO BE INCLUDED AS PART  
OF THE PATH360 FAMILY

This document describes our qualifying criteria for products and services to be included in the PATH360 family. These criteria are focused on the contribution Castrol can make and will help us to assess our progress.

The criteria in this document will be reviewed and revised where Castrol considers it necessary due to changing circumstances and at least every two years.

Published March 2021





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# INTRODUCTION







# THE WORLD IS ON AN UNSUSTAINABLE PATH. ACTION IS NEEDED.

Today, a quarter of the world's energy is lost to friction, corrosion and wear<sup>1</sup>.

At Castrol, we're stepping up our 120 year fight against it, and continuing to develop products and services that help our commercial customers save energy, waste and water.

## BUT WE'RE NOT STOPPING THERE

We've developed a 360 roadmap for our business that:

- Embraces circular thinking - looking at the life-cycle of every product we make to see how it can be improved, extended, reused or recycled.
- We are investing in and developing products and services that support the world's transition to renewable energy and sustainable technologies - like lubricants for wind turbines and fluids for e-mobility.

## WE HAVE THREE FOCUS AREAS:

### Saving waste

We're continuing to help our commercial customers with their sustainability goals related to energy, waste and water, as well as aiming to halve our plastic footprint by 2030<sup>2</sup>.

### Reducing carbon

We're aiming to halve the net carbon intensity per litre of our products by 2030<sup>3</sup>.

### Improving people's lives

Working to improve people's lives around the world, including through our carbon neutral programmes<sup>4</sup>.

## WE'RE ALREADY ON OUR WAY:

- Our redesigned plastic packaging is expected to reduce our plastic use by 7,000 tonnes per year from 2023.
- In 2020, around 20% of the liquid products we sold were carbon neutral<sup>5</sup>.
- And in this way, since 2014 we've supported carbon offset programmes that have helped improve over 1.8 million lives<sup>4</sup>.

At Castrol we see this as just the beginning. We want to do more.

It's by working together with customers, communities and partners where we believe we can truly make a difference.

This is our new, holistic path to help create a more sustainable future.

This is Castrol's PATH360.

<sup>1</sup>Influence of tribology on global energy consumption, costs and emissions Kenneth Holmberg & Ali Erdemir

<sup>2</sup>To promote the responsible design and management of plastic packaging along its life-cycle, Castrol defines its plastic footprint as the amount of virgin plastic included in our packaging per litre that isn't recycled. Our aim to halve it is from our 2019 baseline.

For more information visit [www.castrol.com/PATH360/Definitions](http://www.castrol.com/PATH360/Definitions)

<sup>3</sup>vs Castrol's net carbon intensity per litre of our products sold in 2019.

For more information visit [www.castrol.com/PATH360/Definitions](http://www.castrol.com/PATH360/Definitions)

<sup>4</sup>Through co-benefits from the offsetting undertaken as part of Castrol's carbon neutral programme.

For more information visit [www.castrol.com/PATH360/Definitions](http://www.castrol.com/PATH360/Definitions)

<sup>5</sup>For more information visit [www.castrol.com/cneutral](http://www.castrol.com/cneutral)



# IMPROVING THE ENVIRONMENTAL PROFILE OF OUR OFFERS





## CASTROL'S APPROACH TO SUSTAINABILITY IS TO TAKE A 360 APPROACH, TO MAXIMISE OUR CONTRIBUTION TO A MORE SUSTAINABLE FUTURE, AND OUR PRODUCTS AND OFFERS ARE CORE TO THAT.

Our goal is to become the lubricant, service and maintenance sustainability partner of choice for our customers. Improving the environmental profile of our range and improving their contribution in use, through performance, is key to achieving that.

Since 2014, we have been conducting product life-cycle assessments for an increasing number of products within our portfolio. We use the GHG Protocol's Product Standard<sup>1</sup> to quantify the life-cycle carbon emissions associated with a product from raw material extraction, transport, production emissions, packaging, use and ultimate fate at end of use.

To develop the PATH360 strategy, in 2020 Castrol worked with ERM to conduct its first assessment of its greenhouse gas inventory in line with the GHG Protocol's corporate value chain standard<sup>2</sup> covering scopes 1, 2 and 3. Together this work has enabled Castrol to identify carbon reduction enablers across the product life-cycle, what we can do and where we need to work with our partners to influence change.

To improve the environmental profile of our offer we have developed these Castrol PATH360 qualifying criteria to help us identify which of our products we consider to be "more sustainable" or "have a better environmental profile". Our 6 guiding principles will help us improve the environmental profile of our ranges and meet our 2030 aims.

We have put "Think Circular" as our first guiding principle because we believe that circular economy thinking can help us to improve the environmental profile and reduce the life-cycle carbon emissions of our products. We include our second principle "Lower Carbon Design" in our decision-making processes and together with the principle of "Carbon Neutral" we will advance our aim of halving the net carbon intensity of our products. Our principle of "Customer Solutions" describes how we will continue to pioneer efficient performance to help our customers towards their sustainability goals, and is aligned to our focus on saving waste and as we move more into newer growing sectors like e-mobility, wind and solar we will play our part in advancing the transition to a more sustainable future.

All of which is underpinned by our focus area and guiding principle of "Improving People's Lives". We seek to build in positive outcomes for people around the world as we work. It starts within our business and extends out into activities ranging from our carbon neutral programme to, tools aiming to improve mechanic knowledge, helping to support more sustainable livelihoods and a focus on customer inclusion. For more information visit [www.castrol.com/PATH360](http://www.castrol.com/PATH360)

<sup>1</sup>For more information visit Product Standard | Greenhouse Gas Protocol ([ghgprotocol.org](http://ghgprotocol.org))

<sup>2</sup>For more information visit <https://ghgprotocol.org/corporate-standard>

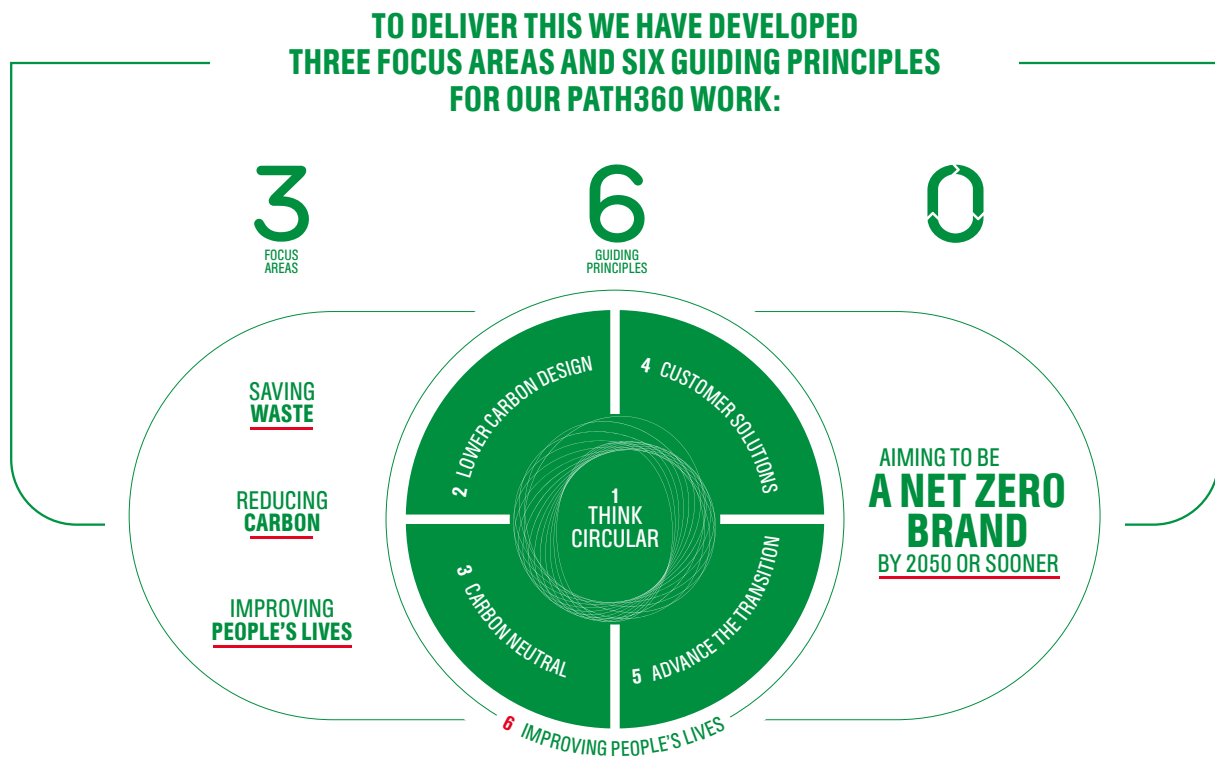
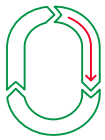


Figure 1: Our PATH360 framework



## HERE IS MORE INFORMATION ON OUR SIX GUIDING PRINCIPLES:



### 1 THINK CIRCULAR

We look at the life-cycle carbon profile of our products from “cradle to grave” and are using circular economy thinking to help us improve them. Turn to page 13 to find out more.



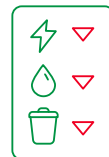
### 2 LOWER CARBON DESIGN

We consider life-cycle carbon profile as part of our product development process to deliver high performance lower life-cycle carbon solutions.



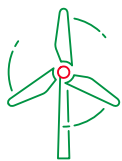
### 3 CARBON NEUTRAL

To make a carbon neutral offer we follow the PAS 2060 standard to calculate the life-cycle carbon of the product, develop a carbon reduction plan, purchase and retire sufficient carbon offset credits to compensate. Carbon offsetting is an efficient way to compensate a product's life-cycle carbon while we work to bring it down.



### 4 CUSTOMER SOLUTIONS

We know that the biggest difference we can make is by working together with our customers and partners and helping towards their sustainability goals. Our products can help our customers save energy, waste or water and we are focused on high performance solutions to maximise this contribution.



### 5 ADVANCE THE TRANSITION

We are investing in and developing products and services that support the world's transition to renewable energy and sustainable technologies - like lubricants for wind turbines and fluids for e-mobility.



### 6 IMPROVE LIVES

And we build in positive outcomes for people around the world as we work. Our activities range from aiming to improve mechanic education, helping to support more sustainable livelihoods and a focus on customer inclusion.





# OUR QUALIFYING CRITERIA

This document describes our qualifying criteria for products and services to be included in the PATH360 family. These criteria are focused on the contribution Castrol can make and will help us to assess our progress. The criteria in this document will be reviewed and revised where Castrol considers it necessary due to changing circumstances and at least every two years.

Castrol will establish a governance process for adding a product or service to the PATH360 family and reviewing the criteria for inclusion. This would include reviewing the proposed basis for new product inclusion and recording the criteria of how they were met. It will also review any proposals to amend the criteria.

There are currently four criteria. They are:

**1 CUSTOMER SOLUTIONS**

**2 ADVANCING THE TRANSITION**

**3 LOWER CARBON DESIGN**

**4 CARBON NEUTRAL**

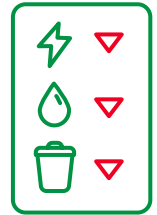


# 1 CUSTOMER SOLUTIONS





# PATH360 OUR QUALIFYING CRITERIA “CUSTOMER SOLUTIONS” PRODUCTS AND SERVICES



To achieve the Paris climate goals<sup>1</sup>, the world will need improvements in end use energy efficiency. In one estimate, these improvements can provide almost 40% of the necessary GHG reductions. Castrol products and services help their users to save energy by reducing friction and reduce waste by protecting from corrosion and wear. Increasingly we are developing offers to support customer water saving and protection goals.

Products and services included in the PATH360 family under the “Customer solutions” criteria are those that we consider can demonstrate they deliver better outcomes than competitor or industry benchmarks and thereby contribute towards their user’s<sup>2</sup> sustainability objectives.

## ENERGY EFFICIENCY IS CRITICAL TO ACHIEVING THE PARIS CLIMATE GOALS

In total, ~23% (119 EJ) of the **world’s total energy consumption** originates from tribological contacts. This 23% is split as 20% (103 EJ) is used to overcome friction and 3% (16 EJ) is used to remanufacture worn parts and spare equipment due to wear and wear-related failures<sup>2</sup>.

“Reducing the fuel consumption through lowering the engine oil viscosity by only **1% would yield calculated savings of 1.7 million tonnes of CO<sub>2</sub>-emissions** based on the total 170 million tonnes of CO<sub>2</sub>-emissions generated by **German road traffic annually<sup>3</sup>.**”

<sup>1</sup>Energy Technology Perspectives 2020 IEA Page 73

<sup>2</sup>Influence of tribology on global energy consumption, costs and emissions Kenneth Holmberg & Ali Erdemir

<sup>3</sup>Tribology in Germany: Interdisciplinary technology for the reduction of CO<sub>2</sub>-emissions and the conservation of resources 2019



## ENERGY

### AUTOMOTIVE – FUEL ECONOMY LATEST OEM OR INDUSTRY SPECIFICATION

Castrol's automotive lubricants portfolio covers cars, bikes and trucks and within each application the performance is wide ranging to cover the needs of our customers around the world, from older industry specifications to newer high performing products carrying the latest OEM and industry specifications<sup>1</sup>.

- To qualify as a PATH360 product for fuel efficiency, a product must carry what Castrol considers to be a leading fuel efficiency requirement in its specification. This means the product has had to pass a stringent fuel efficiency performance requirement set either by an OEM or an industry body. Only those products where the fuel efficiency requirement is deemed premium/top tier in a given market are included.
- Products which have specific fuel efficiency performance claims, independent of specifications, are also included, i.e. product has been evaluated in a non industry or OEM test to prove the fuel efficiency benefit. For example [CASTROL MAGNATEC](#) [STOP-START](#) | [CASTROL INDIA](#).

### LOWER VISCOSITY GRADES COMPARED TO MARKET AVERAGES

A second aspect of fuel efficiency is the viscosity of the products. Lower viscosity products, regardless of the specification that they carry, can have an inherent fuel efficiency benefit vs thicker viscosity grades. The lower viscosity grades are often specified by the vehicle manufactures in order to help meet vehicle efficiency and emissions performance requirements. This is typically led through designing the engine to meet these standards which subsequently requires a thinner oil to operate correctly for performance and durability in all required conditions.

- In order to qualify as PATH360 according to its viscosity grade we look at the lubricant sales by viscosity grade per geography to establish which grades are premium and leading the lower viscosity transition in that market.

We estimate that in 2019 our lower viscosity lubricants saved our customers 270 million litres of fuel compared to what would have been used by vehicles using a global industry average portfolio of lubricants<sup>2</sup>.

<sup>1</sup>these are continually updated by the industry and OEM's and Castrol will assess these in line with the review of this document

<sup>2</sup>due to the Castrol passenger car portfolio sold in 2019 being made up of a larger proportion of lower viscosity lubricants based on a set of assumptions. Fuel efficiency determined via the Industry M111FE test.

For more information visit [www.castrol.com/PATH360/fuel-saving](http://www.castrol.com/PATH360/fuel-saving)



## THINK CIRCULAR

We're harnessing circular economy thinking to reduce the life-cycle profile of our products and services - looking at how we can improve both our inputs and our processes, but also how our products can help customers too.

Where using circular economy principles delivers sufficient benefit to customer or lower life-cycle carbon, the product may qualify as part of the PATH360 family under that principle. We give some examples of how this is working in practice in the next pages.

- REDUCE - Working to reduce raw material demand across the value chain  
- long life products, reduce packaging, digital solutions
- REPLACE - Investigating alternative raw materials and techniques (e.g. alternative ingredients or digital services)
- REUSE - Designing with the end in mind, considering the system as a whole and working to reduce raw material demand
- RECYCLE - Using recycled materials to lower product environmental profile and keep materials in use
- RELATIONSHIPS - Partnering, sharing, lobbying and providing technical support.

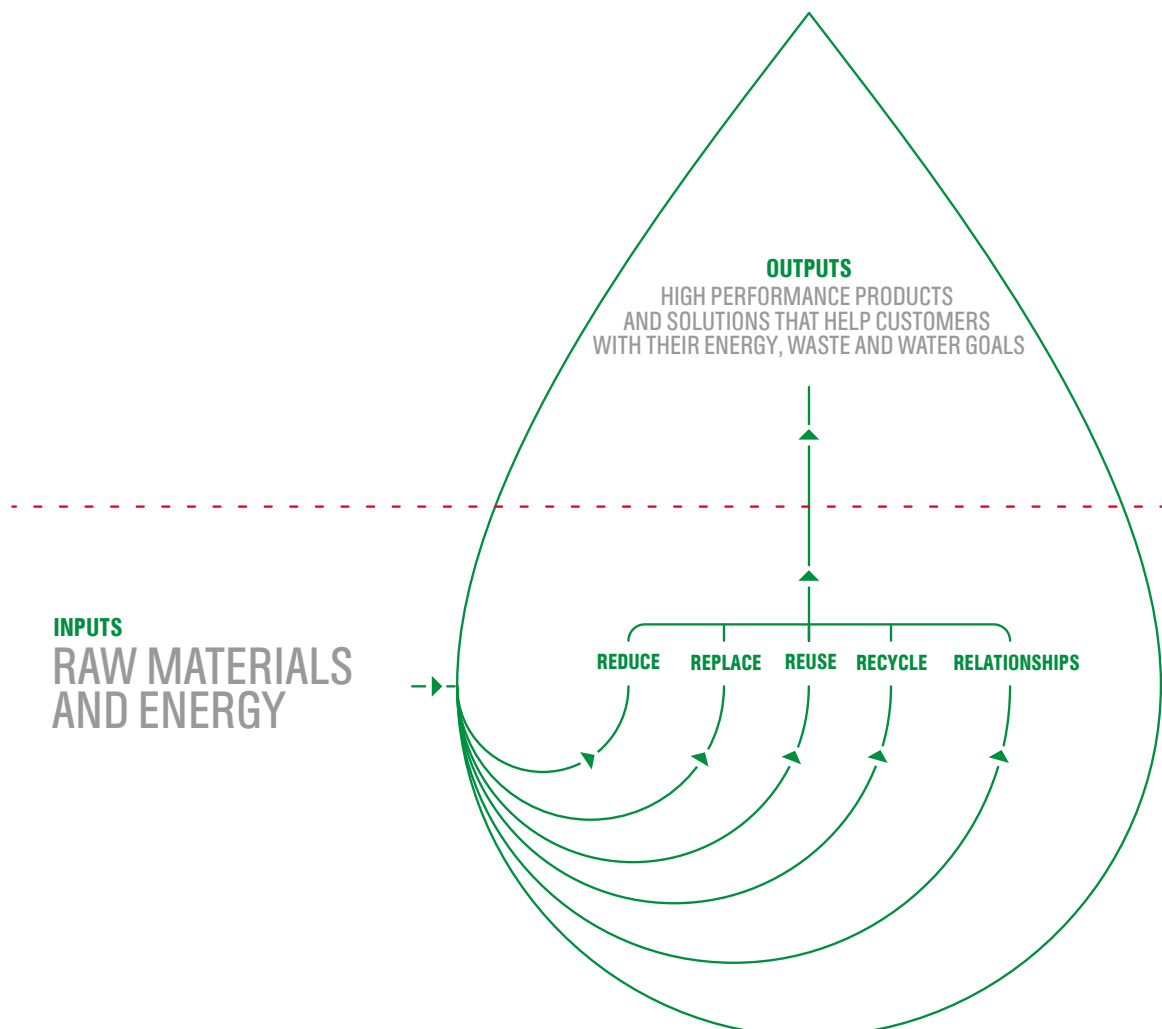


Figure 2: Our Think Circular approach





## WATER

Water is a precious resource and a valuable commodity. According to the UN, water scarcity affects more than 40% of the world's population and is projected to rise<sup>1</sup>.

Castrol commercial customers are setting water targets related to consumption and to reducing contamination. Castrol is developing offers and solutions to help with these goals. To qualify as PATH360 under the water category products and services must either

- help customers save water, or
- reduce water contamination

### WATER SAVING

By considering the environment in which products are used they can be designed to work together in order to help customers reduce overall water demand.

- Products designed to work as systems thereby reducing customer water demand. When sold together these products can qualify as PATH360 in the water category.
- When designed and sold as systems to save water they can qualify as part of the PATH360 family.

### REDUCING WATER CONTAMINATION

Our customers meet operational and regulatory requirements for marine applications and reduce leakages and spills. Depending on the products, this is achieved via superior levels of biodegradation, significantly reduced levels of bioaccumulation and toxicity than a conventional mineral based oil or mineral oil based grease.

- Products with improved biodegradation, reduced bioaccumulation or toxicity (in line with requirements of EU Ecolabel or OSPAR Convention on the Protection of the Marine Environment of the North East Atlantic) can qualify as part of the PATH360 family.

### Techniclean XBC range reimagines the process by recycling the cleaner

Our Techniclean family of solvent and water-based cleaners enables precision cleaning of metal-worked parts in a wide range of cleaning systems. While other industrial cleaners can only be discarded, cleaners such as Techniclean XBC range can be cycled back to the coolant system without causing performance issues. This reduces waste volume, as Techniclean is constantly being reused. It also enables lower water consumption, and lower operating costs, thanks to the reduction in waste processing and clean water usage. When the cleanliness of components after process cleaning is paramount, but you also need to reduce water consumption, machining and cleaning process costs, Techniclean helps make it happen.

## WASTE

Many Castrol customers have set stretching waste targets such as minimising waste to landfill, responsible use of resources and packaging targets all linked to waste.

To qualify as PATH360 under the waste category products and services must demonstrably help their users reduce waste arisings: For example by

- Extending the useful life of machines.
- Reducing the waste generated by our product and packaging at end of use.

<sup>1</sup>For more information visit <https://www.un.org/sustainabledevelopment/water-and-sanitation/>



## REDUCE

**Extended drain formulations** are designed to prolong useful life and help reduce waste. Our automotive engine lubricant portfolio covers cars, bikes and trucks and within each application the performance is wide ranging to cover the needs of our customers around the world, from older industry specifications to newer high performing products carrying the latest OEM and industry specifications.

- To qualify as a PATH360 under the waste criteria “extended drain”, a product will need to carry an extended drain interval specification or been proven to extend oil drains independent of specification. This means the product has had to pass a stringent extended performance test or an in-field assessment above and beyond what is typical for that application.

For example [CASTROL VECTON | CASTROL UK & IRELAND](#) Fully synthetic (SAE 10W-40) and part synthetic (SAE 10W-30) diesel engine oils which have been tested for extended drains up to 120,000 km<sup>1</sup>.

### Extending useful life

Corrosion and wear cause machine life to be reduced. Globally 16EJ of energy is used to remanufacture worn parts and spare equipment due to wear and wear related failures<sup>2</sup>.

- Products qualify as PATH360 in the “extending useful life” category if they can demonstrate that they have superior protection characteristics when compared to the industry standard.

## REUSE

By understanding the quality of residual material at end of use and the environment it is working in we can find ways that materials can be re-used thereby reducing total waste arisings and raw material demand.

- Products designed to work as systems thereby reducing customer waste arisings. When sold together these products can qualify as PATH360 in the waste category.

e.g. our Techniclean XBC product range sold as compatible cleaner to our XBB coolants is to be considered as a system enabling waste reduction.

Through our partnership approach and advanced metalworking fluids offer, Renault saved 1 million litres of water and 1 million litres of waste in their automotive engine plant<sup>3</sup>.

<sup>1</sup>Approved by MAN for up to 120,000 km and Mercedes Benz, Volvo, and Renault for up to 100,000 km in accordance with their specifications. Actual oil drain depends on engine type, operating conditions, service history, OBD and fuel quality. Always consult your manufacturer's handbook

<sup>2</sup>Influence of tribology on global energy consumption, costs and emissions Kenneth Holmberg & Ali Erdemir

<sup>3</sup>For more information visit [Case Studies | CASTROL UK & IRELAND](#)



## REDUCED HEALTH AND ENVIRONMENTAL IMPACT

Improving lives is one of our six guiding principles. The environmental and health profile of our products and offers is governed by legislation and/or managed through our own product risk assessments.

The toxicological and ecotoxicological properties of relevant Castrol products are assessed to determine its health and environmental impacts. The minimisation and mitigation of these impacts primarily include alternative selection of raw materials and substituting these where applicable. Where alternatives are not available measures can be taken to eliminate these raw materials or where low risk appropriate measures are put in place to manage the use of products.

- Where a product can demonstrate that a raw material has been removed or substituted to mitigate the impact (ahead of legislation) it may qualify as part of the PATH360 family.

Castrol BioTac OG is an environmentally responsible open gear lubricant formulated to reduce the impact on the marine environment – either where the lubricant is deliberately placed in contact with the marine environment such as rack and pinion gearing on the legs of jack-up drilling rigs, or where there is a risk of spill or leakage from anchor winches or other deck machinery.

Our Liquid Engineers matched the performance characteristics of the best available traditional lubricants with new additive technologies to create BioTac OG. The thickener structure is highly resistant to water washing and provides outstanding corrosion protection and its high load carrying performance reduces wear on pinion teeth and guides.

BioTac OG has proven environmental credentials, it is OSPAR compliant with no substitutable components and all components are either Green (PLONOR<sup>1</sup>) or Yellow in Norway. It exceeds US EPA toxicity requirements<sup>2</sup> and passes US EPA static sheen test.

<sup>1</sup>PLONOR – Pose Little or No Risk to the Environment (OSPAR definition)

<sup>2</sup>As specified in the NPDES permit GMG29000 for subsea production control fluids  
For more information visit [biotac\\_mp\\_protection\\_performance.pdf](https://www.castrol.com/paths360/paths360_criteria/biotac/biotac_mp_protection_performance.pdf) (castrol.com)

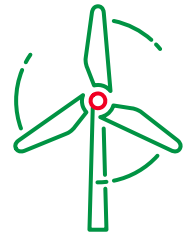
A photograph of a wind farm in a green field under a cloudy sky. A series of white and yellow concentric arcs are drawn over the image, framing the central text.

# 2 ADVANCING THE TRANSITION





# PATH360 OUR QUALIFYING CRITERIA FOR PRODUCTS AND SERVICES THAT “ADVANCE THE TRANSITION TO A MORE SUSTAINABLE FUTURE”



“Achieving net-zero CO<sub>2</sub> emissions requires a range of measures and a range of technological transitions. The immediate opportunities are in energy efficiency, in particular in industrial processes, space heating and cooling, and the fuel economy of vehicles, and energy from renewable sources, in particular wind and solar photovoltaic (PV). Over the next two decades, in some scenarios energy efficiency and renewables contribute between them around 70% of cumulative CO<sub>2</sub> emissions savings.”<sup>1</sup> We play a role here by producing products that help support the rapid adoption of hybrid and electric vehicles and supporting efficient power generation through our wind offers. On top of that we’re also delivering new, digital, systems and processes to help our customers and partners achieve greater efficiency throughout their operations.

- All products and services developed for these new growing sectors will qualify as part of the PATH360 family

## SUPPORTING THE GENERATION OF RENEWABLE POWER

40% of unplanned downtime on windfarms is caused by gearbox failure. This can mean losses of up to \$200,000 per event and drastic increases to a wind fleet’s levelised cost of energy<sup>2</sup>.

Maximising the efficiency of every gearbox depends on the control of friction. Gearbox friction generates excessive heat, putting thermal stress on system components to cause wear and pitting. This shortens the life of component parts and reduces gear box performance, leading to unscheduled downtime and additional replacement/labour costs.

Castrol Optigear Synthetic X320 is our premium oil for wind turbine gears, and is proven to reduce friction by up to 30 per cent, reduces gearbox stress in all conditions and our additive boost package extends the useful life further, removing at least one main gearbox oil change during the life of each turbine.

<sup>1</sup>Energy Technology Perspectives 2020 IEA Page 73

<sup>2</sup>For more information visit [OPTIGEAR WIND | CASTROL UK & IRELAND](#)





## SUPPORTING THE ADOPTION OF E-MOBILITY SOLUTIONS

As part of Castrol's strategy we are supporting newer, growing sectors including e-mobility. Electric vehicles (EVs) play a fundamental role in the future of the automotive industry.

- All products and services developed to serve e-mobility qualify as part of the PATH360 family.

### Supporting the e-mobility transition

Castrol has recently launched Castrol ON, a new brand for its range of advanced fluids for EVs. The range includes e-Transmission Fluids, e-Coolants and e-Greases. Advanced e-Transmission Fluids help extend the life of the drivetrain system and enable EVs to go further on a single charge. e-Coolants help keep batteries cooler, even in extreme conditions, and enable them to tolerate ultra-fast charging (>150kw), while e-Greases enable EVs to perform more efficiently by minimising temperature spikes, and enhancing durability of components whilst lowering weight.

### Castrol ON: leading the charge

Castrol's e-Fluids range has been developed in close collaboration with industry partners including the Jaguar Racing Formula E Team. Castrol ON's motorsport collaborations mean that e-Fluid technologies can be pushed and tested to the limit on the track before they reach the road.

## THE NEW CASTROL ON E-FLUID RANGE

### e-Coolants

Castrol ON battery e-Coolant improves thermal management, keeping batteries cooler and at more stable temperatures, even in extreme conditions. This enables ultra-fast charging, and helps to extend the life of the battery.

### e-Transmission Fluids

Castrol ON e-Transmission Fluids deliver enhanced protection of the drivetrain and improve efficiency, helping EVs go further on a single charge and working to extend the life of the drivetrain system.

### e-Greases

Castrol ON e-Greases play a vital role in maintaining optimum efficiency and extending the life of components.

To find out more about Castrol ON visit:  
[www.castrol.co.uk/e-Fluids](http://www.castrol.co.uk/e-Fluids)

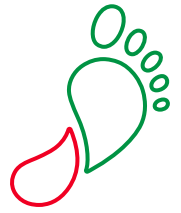
<sup>1</sup>Based on LMCA data for top 20 selling OEMs (new car sales) in 2019. Used as part of OEM factory fill.



# 3 LOWER CARBON DESIGN



# PATH360 OUR QUALIFYING CRITERIA FOR **LOWER CARBON DESIGN**



Since 2014, we have been conducting product life-cycle assessments for an increasing number of products within our portfolio. These assessments now cover almost 20% of our product sales by volume. We use the GHG Protocol's Product Standard<sup>1</sup> to quantify the life-cycle carbon emissions associated with a product from raw material extraction, transport, production emissions, packaging, use and ultimate fate at end of use.

We are working to reduce the life-cycle carbon profile of our offers by improving our operational efficiency, encouraging our supply chain to decarbonise, collaborating to source lower carbon raw materials and working to influence fate at end of life. We want to deliver high performance products with lower life-cycle carbon profile.

## **“LIFE-CYCLE CARBON”**

- To qualify for PATH360 lower carbon, the product's cradle to grave life-cycle carbon emissions must be at least 10% lower than previous baseline.

<sup>1</sup>Product Standard | Greenhouse Gas Protocol ([ghgprotocol.org](https://www.ghgprotocol.org))



The background of the page is a photograph of a long, blue metal bridge with multiple support pillars extending over a body of water. The sky is a gradient of blue and orange, suggesting a sunrise or sunset. Overlaid on the image are several thin, white, concentric circles that create a sense of depth and focus.

# 4 CARBON NEUTRAL



# PATH360 OUR QUALIFYING CRITERIA FOR CARBON NEUTRAL



Castrol products contribute to saving energy and driving efficiency in use, but there are carbon emissions associated with their life-cycle. Reducing product life-cycle carbon emissions will take time and requires action all along the value chain. Carbon offsetting is a rapid and efficient way for us to contribute to the climate challenge while we work to reduce them.

In 2014 Castrol launched the world's first carbon neutral engine oil "Professional". Since then Castrol has expanded its offer so that in 2020 ~20% of total volume sold was carbon neutral.

To make a product carbon neutral we follow the PAS 2060 standard specification to calculate the life-cycle carbon profile of the product or service, develop a carbon reduction plan, purchase and retire sufficient carbon offset credits to compensate. This is third party assured.

All carbon neutral products can be included as part of the PATH360 family.

For more information visit [www.castrol.com/cneutral](http://www.castrol.com/cneutral)





## SUMMARY OF CASTROL'S PATH360 QUALIFYING CRITERIA WITH EXAMPLE REQUIREMENTS:

QUALIFYING CRITERIA				EXAMPLE REQUIREMENTS
Customer solutions	Energy	Fuel Economy	OEM specification for fuel economy	Dexos Gen 3 BMW LL12 FE
			Industry specification	API GF-6A/B ACEA C2
			Proven independent of specification	CASTROL MAGNATEC STOP-START   CASTROL UK & IRELAND Castrol assessment based on Engine and chassis dynamometer performance
			Lower viscosity vs market average	Castrol calculation based on market data
	Water	Saves Water	Demonstrably saves commercial customer water	Castrol assessment based on field trials and field performance
		Reduces water contamination	Improved biodegradation or reduced bioaccumulation or toxicity	EU Ecolabel OSPAR Convention on the Protection of the Marine Environment of the North East Atlantic
	Waste	Demonstrably help users reduce waste arisings	External drain formulations Extended drain interval specification or proven to extend drain intervals independent of specification – Who does the testing for these?	MAN 3677 - Scania LDF3 Castrol assessment based on field trials and field performance
			Extending useful life Protection characteristics relative to previous benchmark	Castrol Performance Bio CFX 85 – metalworking fluid vs incumbent
			Re-use Products designed to work as a system thereby saving waste – this should be clearer. How much waste saved? If it is only that Castrol products that work together then need to explain that	Castrol assessment based on field trials and field performance
	Health and Environment	Reduced toxicological or ecotoxicological impact	Products formulated to reduce the exposure of chemicals that are harmful to human health or the environment	Globally Harmonised System for the Classification and Labelling of Chemicals (GHS). Health and environmental risk assessment approach from EU REACH OSPAR Convention on the Protection of the Marine Environment of the North East Atlantic
Advance the transition	E-mobility		Products developed specifically to serve electric vehicles	
	Renewable power		Products developed specifically to serve the renewable power sector	
Lower Carbon Design			>10% life-cycle carbon vs baseline	In accordance with GHG protocol
Carbon Neutral	Carbon Neutral		Carbon Neutral	In accordance with PAS 2060



## DISCLOSURE

Castrol®, a bp brand, blends and markets Castrol lubricant products made from hydrocarbons. The global scientific community has reached consensus that emission of carbon dioxide (CO<sub>2</sub>) and other gases from the use of hydrocarbons, including the combustion of fossil fuels, is a contributor to global warming causing what is commonly referred to as climate change. Castrol acknowledges this scientific consensus but also recognises the role that lubricants play in supporting efficient motion to meet everyday energy needs.

Castrol is offering carbon neutral product offsets in accordance with PAS 2060. When you use a carbon neutral lubricant in your vehicle or machine, some CO<sub>2</sub> will be emitted into the atmosphere through its life-cycle – either as losses in use or if combusted at end of life.

A carbon offset is an action or activity (such as the planting of trees or carbon sequestration) that compensates for the emission of CO<sub>2</sub> or other gases to the atmosphere. Put another way, carbon offsetting is a way for compensating for emissions by making an equivalent CO<sub>2</sub> saving elsewhere. The carbon neutral programme Castrol uses supports a range of projects that currently include a cookstove installation project in Mexico and a forest protection and planting project in Zambia. These projects not only reduce carbon emissions but also provide livelihood benefits in support of the UN Sustainable Development Goals.

Please note that a carbon neutral programme will not change or reduce the CO<sub>2</sub> emissions from any combustion of Castrol product nor is it certain that carbon offsetting has a quantifiable effect on the planet.

To learn more about climate change, see <https://www.ipcc.ch/>

To learn more about bp and climate change, see <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html>