THE SHARP END OF SUSTAINABILITY

FIVE LEARNINGS FOR FUTURE-FOCUSED LEADERS FROM OPERATIONAL PROFESSIONALS

IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

Castrol

CONTENTS

THE SHARP END OF SUSTAINABILITY

FOREWORD

The transition to a sustainable economy is one of the biggest challenges that business leaders have ever faced. But they cannot tackle it on their own. With a global focus on improving sustainability, companies in all sectors and geographies – along with governments, consumers and other stakeholders – must play a part. At Castrol we are on our journey to become more sustainable and that's part of the reason we've commissioned this report.

For the movers and makers of the global economy – businesses that create and transport the goods we use every day, and which are often energy and resource-intensive – this is a particularly acute challenge. The ability of these businesses to change, and the intent shown by many of their leaders, will be central to the transition to a sustainable global economy.

THE SHARP END OF SUSTAINABILITY PRESENTS THE FINDINGS OF A GLOBAL OPINION RESEARCH STUDY, COMMISSIONED BY CASTROL IN 14 MARKETS AROUND THE WORLD TO LEARN HOW THESE MOVERS AND MAKERS (THE AUTOMOTIVE, INDUSTRIAL, MANUFACTURING AND MARINE SECTORS) ARE APPROACHING THE TRANSITION.

This was achieved by identifying the views of both the business leaders setting the company strategies and of the operational professionals delivering those strategies on the ground.

The study revealed that the business leaders and their employees sometimes have differing opinions on the pace of their organisations' progress and the scale of the challenge ahead. While business leaders were largely confident about their organisations' sustainability strategy and progress – 89% said they believe that their business will be net zero by 2050 – fewer operational professionals felt the same (68% believe their business will be net zero by 2050).

A major reason for this could be that the sustainability vision and strategy of the leadership teams is not always cascading effectively down through their organisations: almost half of operational professionals (47%) said that lack of vision from business leadership is a barrier to progress on sustainability. Without their workforce fully engaged, leadership teams might struggle to implement their strategies. Business leaders also believed that, on average, just 36% of their employees are active in delivering their sustainability strategy.

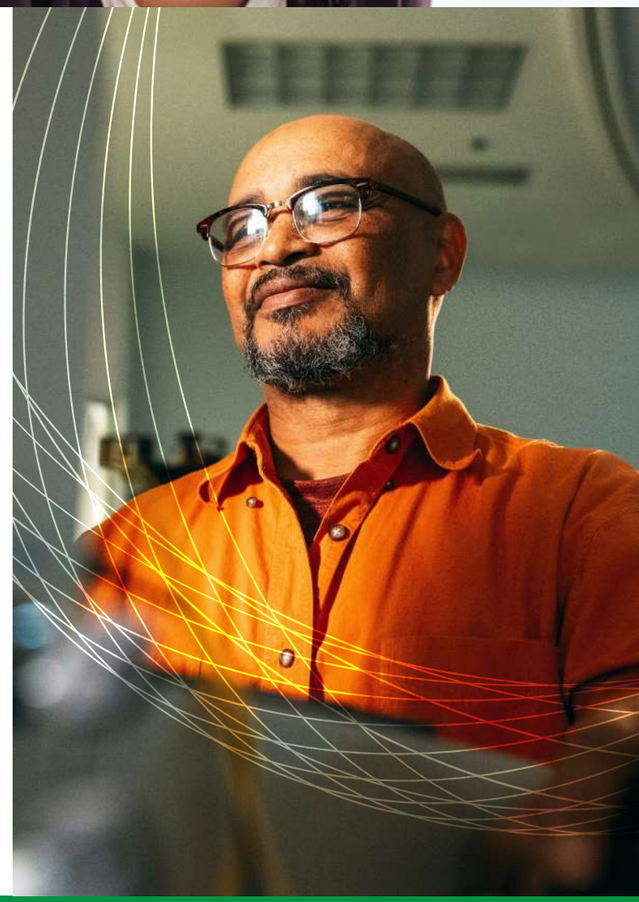
ALMOST HALF OF OPERATIONAL PROFESSIONALS (47%) SAID THAT LACK OF VISION FROM BUSINESS LEADERSHIP IS A BARRIER TO PROGRESS ON SUSTAINABILITY.

To help make this happen, this study outlines **five learnings from the operational professionals at the sharp end of sustainability** for the C-suite, informed by the insights of operational professionals compared with the views of business leaders themselves. We're learning from these findings at Castrol, and are applying them within our business through our PATH360 sustainability strategy. We hope the findings are useful to you too.

Importantly, these five learnings should not be viewed as a dividing line between leadership and operational teams. Instead, they should be seen as valuable insight for the C-Suite in the automotive, industrial, manufacturing and marine sectors about embedding sustainability across their organisations.

As the world works together to create a more sustainable economy, all companies – including Castrol, our clients and our suppliers – have a role to play. Reaching out across organisations, building connections between sectors, and sharing learnings across our networks will help us to move forward together.

Rachel Bradley,
Global Sustainability Director, Castrol



ABOUT THIS STUDY

The Sharp End of Sustainability **is based on an opinion research study that investigated the views of business leaders (mainly C-suite executives) and operational professionals (with job titles such as planning manager, production leader and operating technician) from the automotive, industrial, manufacturing, and marine sectors.**

SECTORS	SAMPLE SIZE (PER SECTOR) OPERATIONAL PROFESSIONALS	BUSINESS LEADERS
Automotive – covering a range of companies involved in the design, development and manufacture of vehicles.	400	275
Industrial – includes machine manufacturing, aerospace, metals and wind.	400	275
Manufacturing – covering chemicals, food and beverage, pharmaceuticals, paper and plastics.	400	275
Marine – businesses that provide support services in the naval, leisure and commercial marine sectors.	480	355
TOTAL	1,680	1,180

The sample included 1,180 business leaders and 1,680 operational professionals based in the **UK, China, India, the US, Australia, New Zealand, Germany, Norway, Turkey, Brazil, France, Vietnam, Singapore and Greece.** The interviews took place in 2021 and were conducted under the ethical research guidelines set by both the MRS (Market Research Society) and ESOMAR (European Society for Opinion and Market Research).

When this report refers to business leaders and operational professionals throughout, it is solely referring to the individuals that took part in this opinion research.

EXECUTIVE SUMMARY

For the movers and makers of the global economy, sustainability is essential to commercial success: over three-quarters of business leaders (76%) and 68% of operational professionals in this study said that improving the sustainability of their business is key to meeting customer needs.

But the scale of the challenge ahead is immense, and this is recognised in the research by both those setting the strategy and those responsible for delivering it on the ground.

OVER SEVEN IN 10 BUSINESS LEADERS

(71%) AND 62% OF OPERATIONAL PROFESSIONALS THAT PARTICIPATED SAID THAT MANAGING THE NET ZERO TRANSITION WILL BE THE BIGGEST CHALLENGE THEIR BUSINESS HAS EVER FACED.

Yet on-the-ground workers are sometimes apprehensive that their businesses are not taking the action required to meet the challenge. Almost half of operational professionals (48%) involved in this research reported that they believed that their sustainability strategy isn't a priority for their leadership team.

FIVE LEARNINGS FROM THE SHARP END OF SUSTAINABILITY

To tackle the sustainability challenge and to remain a trusted partner for their customers, business leaders need to know where to focus. And who better to consult with on their approach than the operational professionals on the ground who are responsible for making the strategy a reality? This study identifies five key learnings from those professionals, who will ultimately be tasked with turning strategy into action.

LEARNING 1
EFFICIENCY FIRST

Operational professionals were clear that improving energy efficiency could be the 'low hanging fruit' in companies' quest to becoming more sustainable.

72%

of operational professionals in the study said that **the most effective way to reduce carbon emissions is improving energy efficiency in their organisation.**

66%

said that energy efficient machinery is an important part of their organisation's transition.

59%

said that investing in new technology to improve energy efficiency will be an important part of any strategy for reducing greenhouse gas emissions.

LEARNING 2
MAKE DATA WORK HARDER

Business leaders are aware that they need to make better use of data to improve sustainability. So, when speaking to operational professionals, this research found that focusing on the specific insights of the data can provide more value than just the data itself.

76%

of business leaders in the study said their business **needs to get better at managing data to inform the best areas to focus on** to improve their organisation's sustainability profile.

82%

believed their business could make **better use of the data they have available** to improve sustainability.

55%

of operational professionals believed **better insight from data** is an important driver in improving the sustainability performance of their business.

56%

thought that **using insight from data generated by processes to improve energy efficiency** is an important strategy for reducing carbon emissions.

LEARNING 3
WASTE NOT, WANT NOT

Waste reduction fundamentals, like seeking to minimise waste to landfill, are an important part of all companies' sustainability journeys. But for waste reduction targets to be successful, business leaders could make sure that operational professionals are aware and on-board with them.

63%

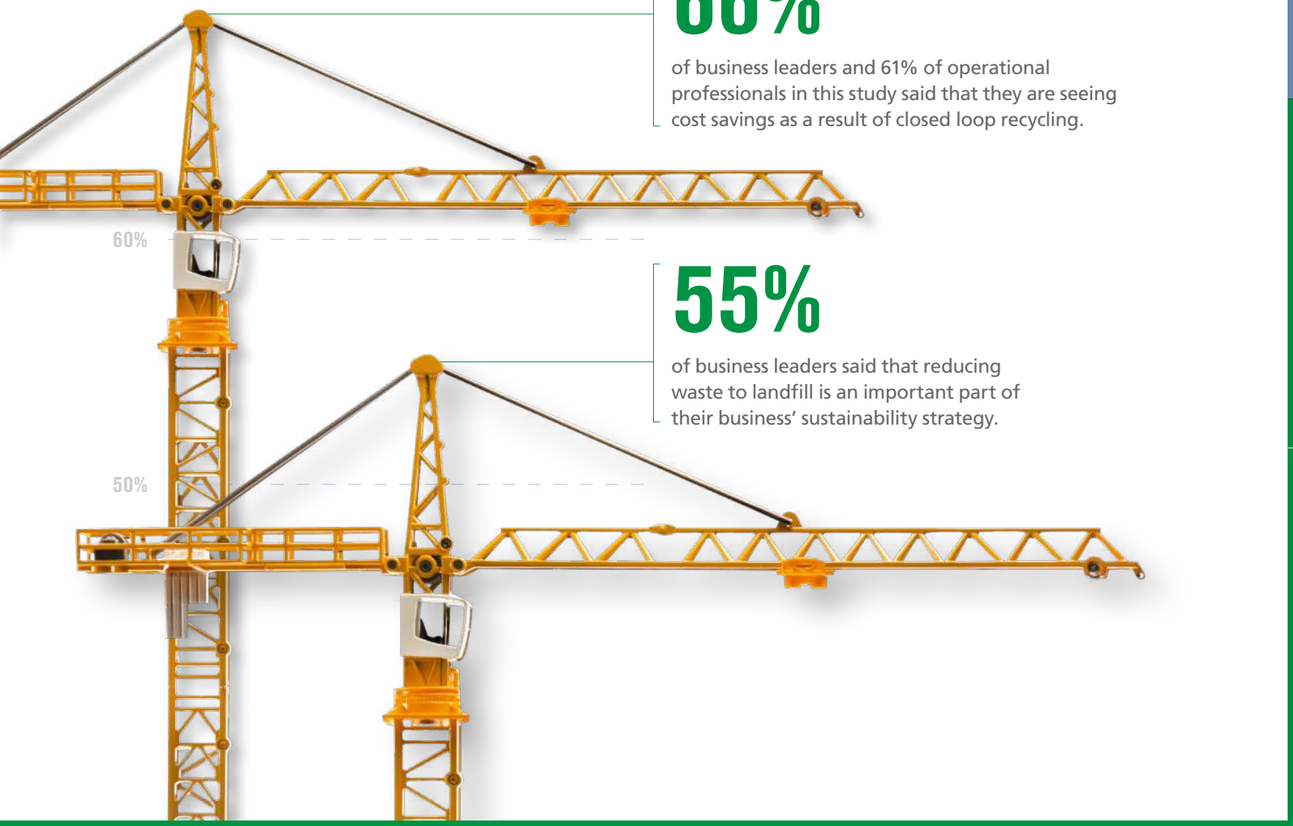
of business leaders in the study said their business has set **waste reduction** targets. 58% of operational professionals believed that waste reduction targets are important to their business.

61%

of business leaders said their business has set **water reduction** targets. 43% of operational professionals believed that water reduction targets are important for their business.

66%

of business leaders and 61% of operational professionals in this study said that they are seeing cost savings as a result of closed loop recycling.



55%

of business leaders said that reducing waste to landfill is an important part of their business' sustainability strategy.

LEARNING 4
SUSTAINABILITY REQUIRES PARTICIPATION

A sustainability strategy can only be really successful if it is understood by the whole organisation, it is supported by the workforce and they have the skills to implement it. But business leaders who took part in this research suggested that only a minority of their employees support and agree with the strategy.

Business leaders believed that just

40%

of their employees understand their sustainability strategy, and just 36% of their employees support and agree with the strategy.

46%

of operational professionals said that their organisation's sustainability strategy is not being carried out on the ground and business leaders believed that on average just 36% of their employees are actively delivering their strategy.

LEARNING 5
PROVE THAT SUSTAINABILITY IS A PRIORITY

For employees to understand and engage with sustainability strategies, C-suite prioritisation could be important. But around half of the operational professionals in the study believed sustainability is not one of their top priorities.

48%

of operational professionals said they believe that the sustainability strategy is not a top priority for their leadership team.

48%

of operational professionals said that a lack of leadership support is a barrier to sustainability.

MOVERS AND MAKERS: **SECTOR SPOTLIGHTS**

Who are the "movers and makers" of the global economy? This study identifies them as the businesses in the global automotive, manufacturing, industrial and marine sectors. While the business leaders and operational professionals across these industries share similar sustainability challenges, they also face issues specific to their sector:

For more detail on the sector spotlights go to p20.

AUTOMOTIVE

Business leaders and operational professionals in the automotive sector said they believe investing in technology should be a sustainability priority and "the lifespan of key technology" is a top barrier to sustainability.

MANUFACTURING

Reducing waste to landfill is the top organisational priority according to both operational professionals and business leaders in this study, followed by ensuring products used are recycled (operational professionals) and ensuring products made are recyclable or biodegradable (business leaders).

INDUSTRIAL

Operational professionals and business leaders who took part in this study are laser-focused on energy efficiency with key strategies including better maintenance and using data insights to improve energy efficiency.

MARINE

Business leaders in the marine sector who took part on the study were hugely positive about their sustainability progress. Almost all business leaders said their organisation will reach net zero by 2050, 96% said they have clear sustainability criteria attached to every procurement decision and 99% thought that their businesses has a clear sustainability strategy which is widely understood.

PART ONE

FIVE LEARNINGS FROM THE SHARP END OF SUSTAINABILITY

Business leaders and operational professionals in this study agreed that sustainability is crucial to the commercial success of their organisation.

But how do they approach the sustainability challenge?

From our opinion research study of over 1,600 operational professionals, we have identified five learnings from the sharp end of sustainability for leaders responsible for implementing sustainability initiatives within their business.

The first three learnings focus on sustainability in practice: tangible changes that businesses could make to their operations to help drive towards a more sustainable future. The final two learnings are related to building a culture of sustainability, focusing on getting organisational buy-in for sustainability strategy and embedding sustainable thinking throughout the business.

SUSTAINABILITY IN PRACTICE

LEARNING 1

EFFICIENCY FIRST

LEARNING 2

MAKE DATA WORK HARDER

LEARNING 3

WASTE NOT WANT NOT

A CULTURE OF SUSTAINABILITY

LEARNING 4

SUSTAINABILITY REQUIRES PARTICIPATION

LEARNING 5

PROVE THAT SUSTAINABILITY IS A PRIORITY

LEARNING 1
EFFICIENCY FIRST

72%

of operational professionals who took part in this research said they believe that the most effective way to reduce carbon emissions is improving energy efficiency.

Improving efficiency could be the 'low hanging fruit' for energy-intensive companies in their quest to reduce carbon emissions, although business leaders appeared to be slightly less attuned to the specific opportunities presented than the operational professionals.

The research showed that operational professionals believe that energy efficiency could be improved by a range of tactics, including operational enhancements, effective maintenance of equipment, engineered improvements including upgrades and modifications, and the implementation of new, more energy-efficient technologies.

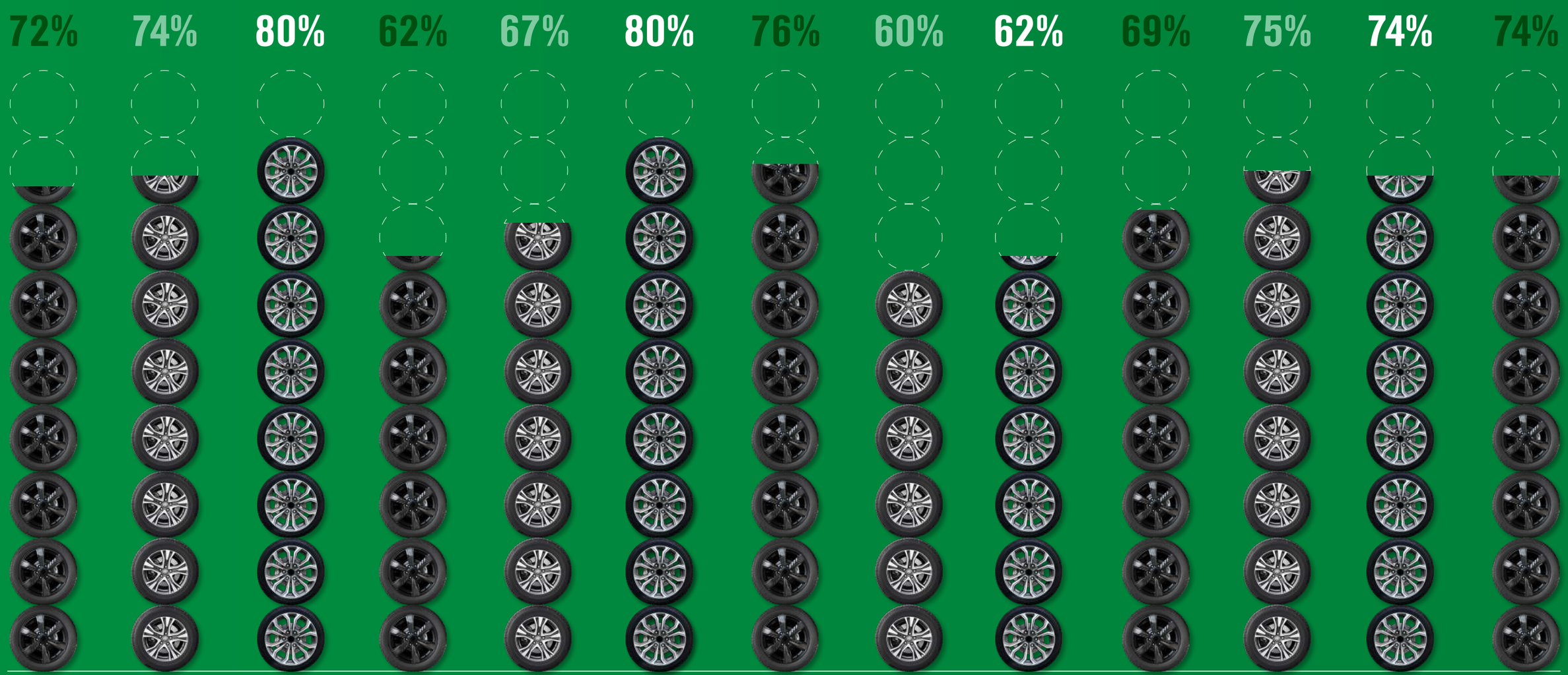
Two-thirds of operational professionals said that energy efficient machinery is an important part of their organisation's transition, compared to just over half (51%) of business leaders. And almost three-fifths of operational professionals (59%) said that investing in new technology to improve energy efficiency will be an important part of any strategy for reducing emissions. Among industrial and manufacturing business leaders, only 46% recognised this.

Energy efficiency: the low hanging fruit for the world's movers and makers?

The difference that energy efficiency improvements can make is substantial. Today, around a quarter of the world's energy is lost to friction, corrosion and wear.[1] The world will need significant improvements in end-use energy to meet the Paris climate goals. According to one estimate, these improvements could provide almost 40% of greenhouse gas (GHG) emissions reductions required.[2]

[1] *https://link.springer.com/article/10.1007/s40544-017-0183-5*
[2] Energy Technologies Perspectives 2020 IEA page 73

The proportion of operational professionals that thought improving energy efficiency could be the most effective way to reduce carbon emissions (by market):



SUSTAINABILITY IN PRACTICE

LEARNING 2 MAKE DATA WORK HARDER

For companies to track their progress, form their strategies and raise investment for sustainability initiatives, robust and reliable data is important.

Over three-quarters of business leaders (76%) in this study believed their business needs to get better at managing data to inform the best areas to focus on to improve sustainability, and 82% believed their business could make better use of the data they have available to improve sustainability.

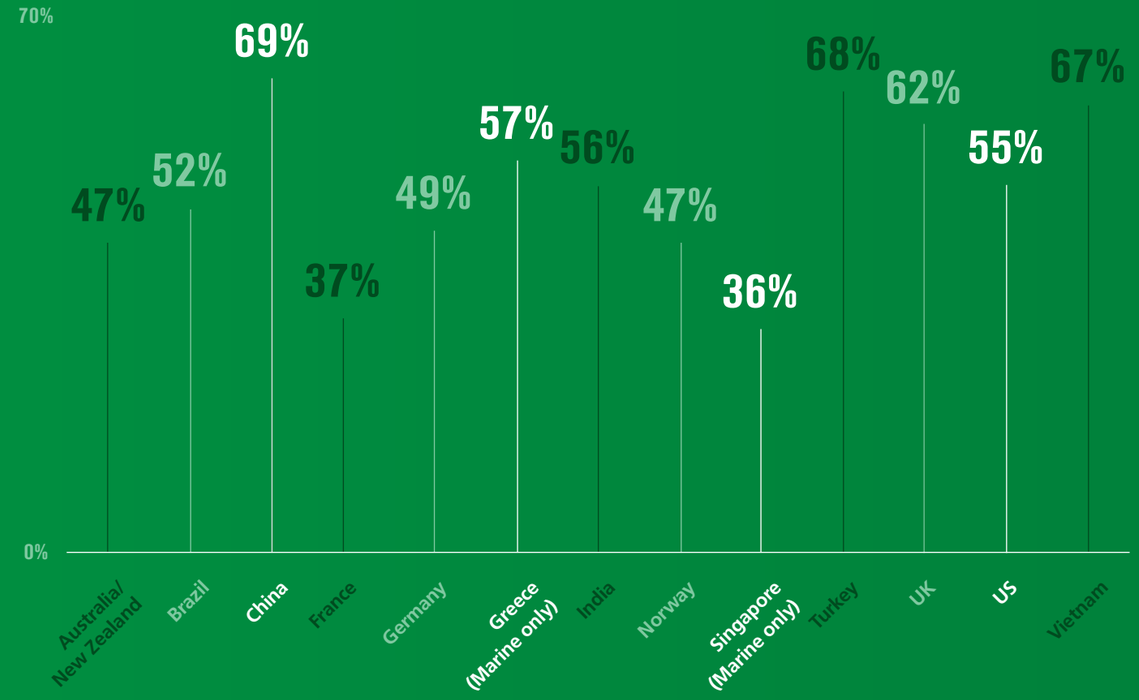
The learning from those at the sharp end of sustainability is that business leaders could get closer to the data to understand what they have, what it can tell them and what data gaps are still there. According to the operational professionals involved in the research, it is the insights gleaned from the data that matter most. Fifty-five percent of operational professionals said better insight from data is an important driver in improving the sustainability of their business, and a similar proportion (56%) thought that using insight from existing processes to improve energy efficiency is an important strategy for reducing emissions.

Using operational data to detect future problems

How can the gathering and analysis of high-quality data make businesses more sustainable? Predictive maintenance could be one powerful way. This technique uses data analysis to detect anomalies, picking up possible problems with equipment and operations so that they can be fixed before more costly failures occur. This data-driven preventative approach can reduce both maintenance costs and energy consumption. This study found that 69% of operational professionals and 76% of business leaders believed their business could make better use of predictive maintenance to improve sustainability.

On average, however, operational professionals were more positive about the potential of this technology than business leaders. Almost half of business leaders (49%) thought that predictive maintenance could be an effective technology to transition to a more sustainable business model, compared to 58% of operational professionals. The automotive sector bucked the trend however, as three-quarters (75%) of business leaders thought that predictive maintenance could be an effective technology for the sustainable transition, compared to only 57% of automotive operational professionals.

The proportion of operational professionals who thought their business needs to get better insight from data, by market:



The proportion of business leaders and operational professionals in this study that said predictive maintenance could be an effective technology for transition, by sector:

ALL SECTORS

OPERATIONAL PROFESSIONALS

58%

BUSINESS LEADERS

49%

MARINE

OPERATIONAL PROFESSIONALS	BUSINESS LEADERS
61%	37%

AUTOMOTIVE

OPERATIONAL PROFESSIONALS	BUSINESS LEADERS
57%	75%

INDUSTRIAL

OPERATIONAL PROFESSIONALS	BUSINESS LEADERS
56%	44%

MANUFACTURING

OPERATIONAL PROFESSIONALS	BUSINESS LEADERS
59%	45%

SUSTAINABILITY IN PRACTICE

LEARNING 3
WASTE NOT, WANT NOT

For resource and energy intensive businesses, reducing waste could be one of the first steps in their sustainability programme. But waste reduction targets and strategies can only be effective if they are understood throughout the business and operational professionals are working towards them.

The circular economy is based on three principles, driven by design: Eliminate waste and pollution, Circulate products and materials (at their highest value) and Regenerate nature. It is underpinned by a transition to renewable energy and materials. A circular economy decouples economic activity from the consumption of finite resources. It is a resilient system that is good for business, people and the environment.*

TWO THIRDS

OF BUSINESS LEADERS AND 61% OF OPERATIONAL PROFESSIONALS SAID THAT THEY ARE SEEING COST SAVINGS AS A RESULT OF ADOPTING CLOSED LOOP RECYCLING.

Despite this, reducing waste to landfill (from both products and operations) was a surprisingly low priority, suggesting that some fundamentals of sustainability may be being overlooked in favour of cutting-edge technological developments. Only 55% of business leaders said that reducing waste to landfill is an important part of their business' sustainability strategy, slightly lower than the 60% of operational professionals who believed this is important to their business.

* Ellen McArthur Foundation

The circular economy

By harnessing circular economy thinking, businesses can create products that have an extended useful life and are easy to reuse or recycle, reducing their life-cycle profile. To do this, a highly collaborative product development process is needed, taking into account how goods are made, used and handled at the end of use. This process encompasses considerations about sourcing, production, sales and marketing. It also means working closely across the value chain, employing 'design thinking' to explore different, more efficient ways of meeting customer needs.

When it comes to waste and water reduction targets, although business leaders reported that most businesses have set targets, there appears to be a lag in terms of operational professionals' awareness of these targets. Sixty-three percent of business leaders in our study said that their business has set waste reduction targets, while 58% of operational professionals believed that waste reduction targets are important to their business. Sixty-one percent of business leaders said their business has set water reduction targets, but only 43% of operational professionals said that water reduction targets are important for their business. The latter is strikingly low, suggesting that messages about water reduction in particular are failing to filter through the business.

Castrol's approach to reducing waste

Saving waste is one of the three focus areas of Castrol's PATH360 framework. Between now and 2030 we will continue to help our commercial customers save energy, waste and water as well as aiming to reduce our plastic footprint by half.[3]

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.[4]

And we have redesigned our plastic packaging to be stronger, lighter and more efficient through distribution. We expect this will reduce our plastic use by 7,000 tonnes per year by 2023.

Our products can help our commercial customers save energy, waste or water and we are focused on high performance solutions to help to maximise this contribution.

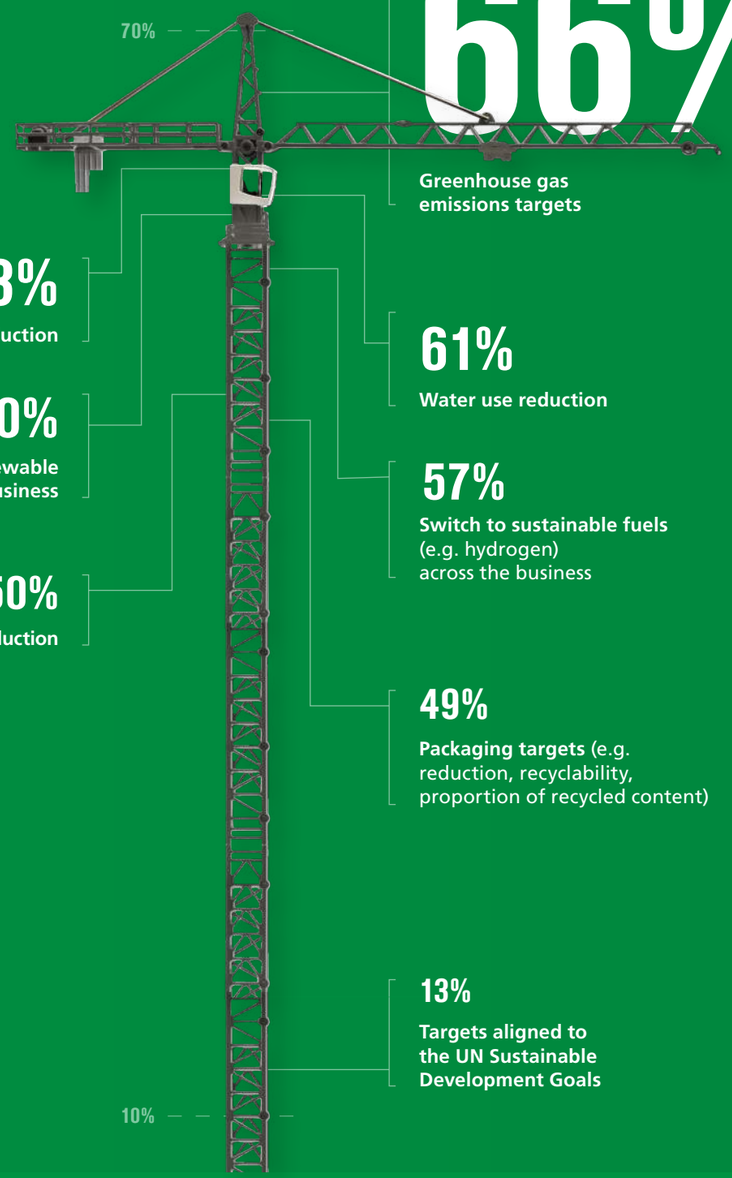
[3] To promote the responsible design and management of plastic packaging along its life-cycle. Castrol defines its plastic footprint as the amount of virgin plastic included in our packaging per litre that isn't recycled vs. our 2019 baseline. For more information visit *www.castrol.com/PATH360/definitions*

[4] For more information visit *https://www.castrol.com/en_gb/united-kingdom/home/industrial/industrial-case-studies.html#tab_renault-engine-plant*

The proportion of operational professionals and business leaders that participated in the study that thought reducing waste to landfill should be an important part of their businesses' sustainability strategy, by market:

Sustainability targets – saving waste and reducing emissions:

The proportion of businesses in our study that have set the following sustainability targets (according to business leaders):



66%
Greenhouse gas emissions targets

63%
Waste reduction

61%
Water use reduction

60%
Switch to renewable energy across the business

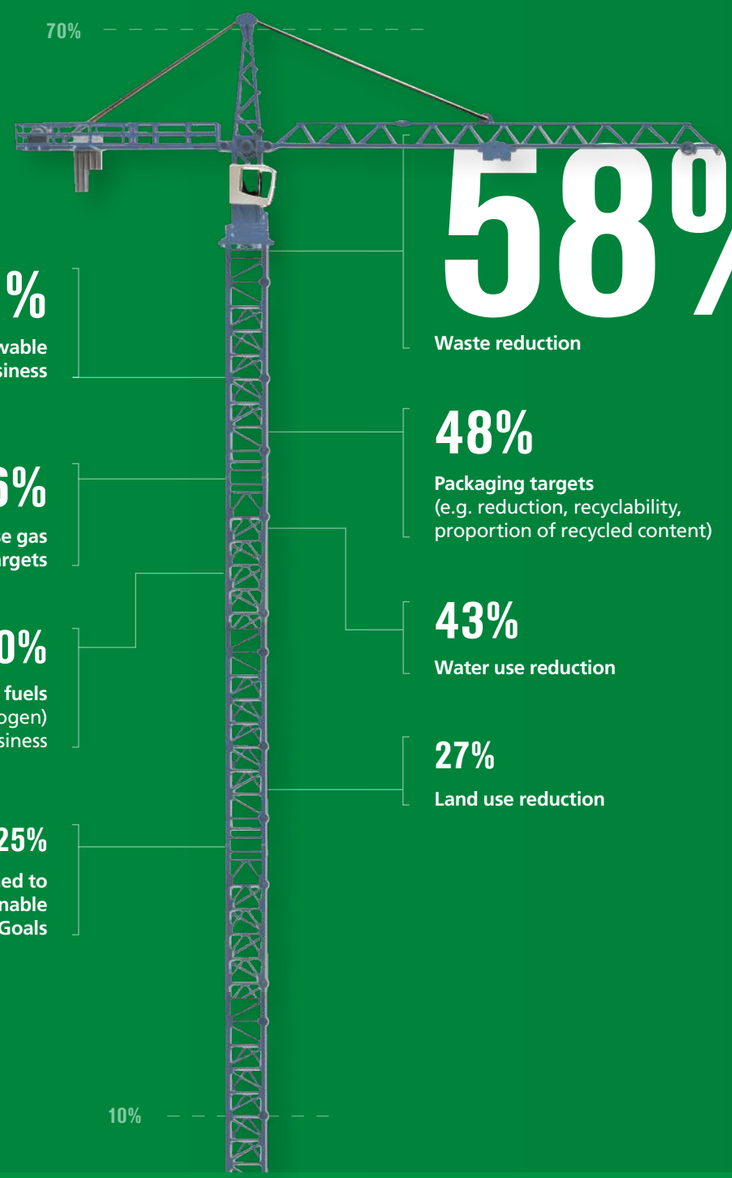
57%
Switch to sustainable fuels (e.g. hydrogen) across the business

50%
Land use reduction

49%
Packaging targets (e.g. reduction, recyclability, proportion of recycled content)

13%
Targets aligned to the UN Sustainable Development Goals

The proportion of operational professionals that think these targets are important to their business:



58%
Waste reduction

51%
Switch to renewable energy across the business

48%
Packaging targets (e.g. reduction, recyclability, proportion of recycled content)

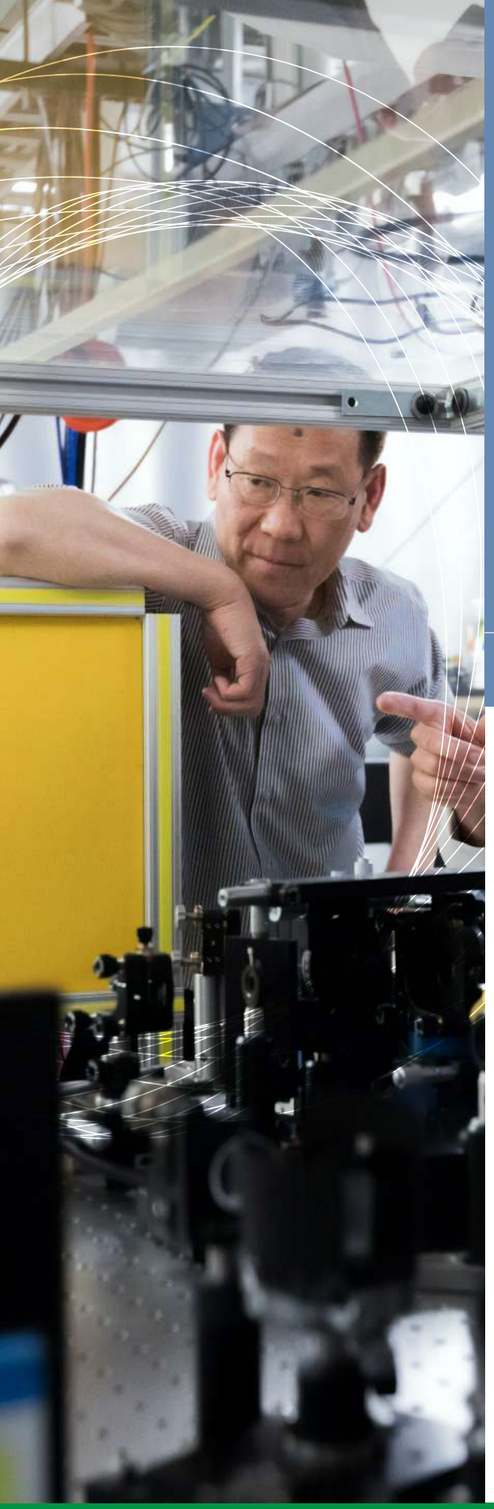
46%
Greenhouse gas emissions targets

43%
Water use reduction

40%
Switch to sustainable fuels (e.g. hydrogen) across the business

27%
Land use reduction

25%
Targets aligned to the UN Sustainable Development Goals



BUILDING A CULTURE OF SUSTAINABILITY

LEARNING 4 SUSTAINABILITY REQUIRES PARTICIPATION

Developing a sustainability strategy and setting targets is important, but unless these strategies are understood, supported and actioned by the workforce, meaningful progress may be a challenge. Unfortunately for the world's movers and makers, the insights from this study suggest that levels of engagement and support are low.

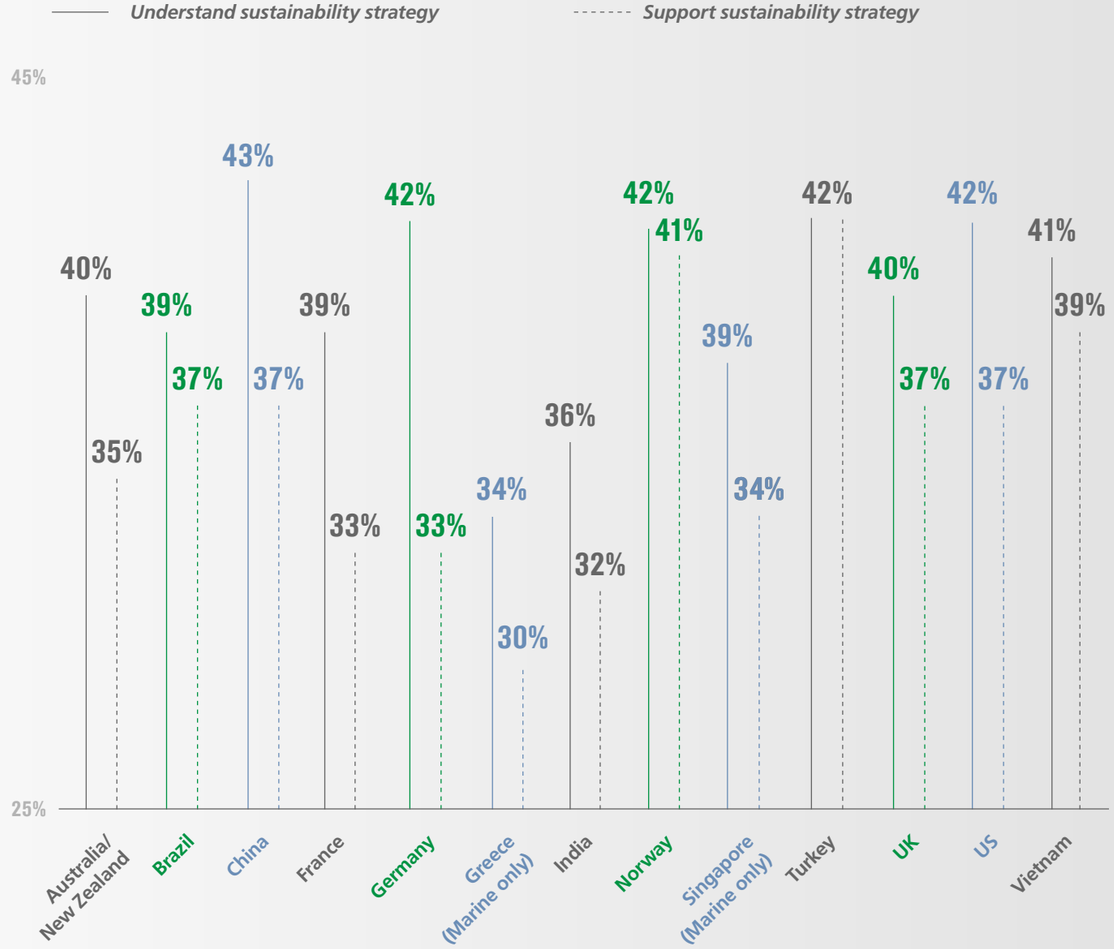
Business leaders believed that an average of just 40% of their employees understand their sustainability strategy, and on average they estimated just 36% of their employees support and agree with it.

Almost half of operational professionals (46%) who took part in the research said that their organisation's sustainability strategy is not being carried out on the ground. And business leaders said they believed that just 36% of their employees are actively delivering their sustainability strategy.

This significant gap between perceptions of strategy and action could be a worrying sign for progress towards more sustainable business models.

Getting organisational buy-in could be critical to turning strategy into action, but for these strategies to be implemented effectively, employees will also need the right skills. Yet over half (51%) of operational professionals that responded feared a lack of sustainability skills within their sector is jeopardising the transition to a sustainable economy.

The average proportion of employees that business leaders said they believe understand and support their sustainability strategy, by market.



The proportion of operational professionals that agreed with the following statements about their organisation's sustainability strategy, by sector:

Operational professionals…

who said they are concerned their workforce do not fully understand the sustainability strategy.

OVERALL

54%

AUTOMOTIVE
56%

INDUSTRIAL
48%

MANUFACTURING
56%

MARINE
56%

who said they believe their workforce does not have the sustainable skills that it will need to transition to net zero.

OVERALL

47%

AUTOMOTIVE
46%

INDUSTRIAL
40%

MANUFACTURING
50%

MARINE
51%

who said their organisation has a sustainability strategy but it is not being carried out on the ground.

OVERALL

46%

AUTOMOTIVE
45%

INDUSTRIAL
42%

MANUFACTURING
45%

MARINE
52%

who said they personally do not understand their company's sustainability strategy.

OVERALL

37%

AUTOMOTIVE
33%

INDUSTRIAL
32%

MANUFACTURING
39%

MARINE
42%

LEARNING 5
PROVE THAT SUSTAINABILITY IS A PRIORITY

Although over two-thirds of business leaders (64%) in this study said that sustainability is at the core of everything their organisation does, their employees may not always see this. Almost half of operational professionals (48%) that took part in this research believed that the sustainability strategy is not a top priority for their leadership team, and the same proportion said that a lack of leadership support is a barrier to sustainability for their business.

Lack of vision on sustainability from business leadership, lack of clear targets and lack of clear business strategy for delivering sustainability were also cited as barriers to progress by almost half of the operational professionals in the study.

According to operational professionals, lack of leadership and vision is hindering progress:

OPERATIONAL PROFESSIONALS CITED A LACK OF...

SUPPORT FOR SUSTAINABILITY FROM BUSINESS'S LEADERSHIP TEAM (48%)

CLEAR TARGETS (48%)

CLEAR BUSINESS STRATEGY FOR DELIVERING SUSTAINABILITY (48%)

AND VISION ON SUSTAINABILITY FROM BUSINESS LEADERSHIP (47%)

AS BARRIERS TO SUSTAINABILITY FOR THEIR BUSINESS.

"Castrol is aiming to be net zero by 2050 or sooner. By 2030 we are aiming to reduce our plastic footprint by half,[5] halve the net carbon intensity per litre of our products[6] and improve the lives of people around the world[7].

Leadership can make or break a sustainability programme. Leaders need to demonstrate they are fully bought-in to their organisation's sustainability strategy and are putting sustainability at the heart of decisions and operations. The study shows that, while leaders are broadly optimistic about the strategy they have set and the direction that their businesses are heading in, operational professionals are not yet fully convinced of leadership's long-term commitment. Really transformational change is needed, and for this to take place, leadership teams need to drive it forward, leading, believing and bringing their organisation with them."

***Rachel Bradley,** Global Sustainability Director, Castrol*

[5] 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. See *www.castrol.com/PATH360/definitions* for more information.
[6] vs Castrol's net carbon intensity per litre of our products sold in 2019. See *www.castrol.com/PATH360/definitions* for more information.
[7] Through co-benefits from the offsetting undertaken as part of Castrol's carbon neutral programme see *www.castrol.com/PATH360/definitions* for more information.

PART TWO

SECTOR SPOTLIGHTS

SECTOR SPOTLIGHT

AUTOMOTIVE

TECH THAT DRIVES CHANGE

Both business leaders and operational professionals in the automotive sector believed that investing in technology should be a sustainability priority, and "the lifespan of key technology" is the top barrier to sustainability.

Who were the sample?

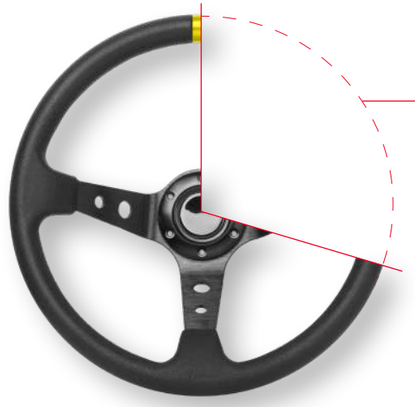
400 operational professionals and 275 business leaders who work for companies involved in the **design, development and manufacture of vehicles.**

"

It's a given that energy efficiency and waste reduction drive transition, but in order to make progress we need to decouple business growth from consumption. Companies need to be able to increase their value without increasing their consumption of raw materials and their CO2 emissions. This decoupling of growth and consumption is the only way forward for Volvo Cars the automotive sector, and for the wider economy."

Anders Kärrberg, *Head of Global Sustainability, Volvo Cars*

How important are the following aspects of sustainability to your business?



BUSINESS LEADERS

68%

Reducing waste to landfill.

68%

Ensuring products used are recycled.

OPERATIONAL PROFESSIONALS

60%

Energy efficiency.

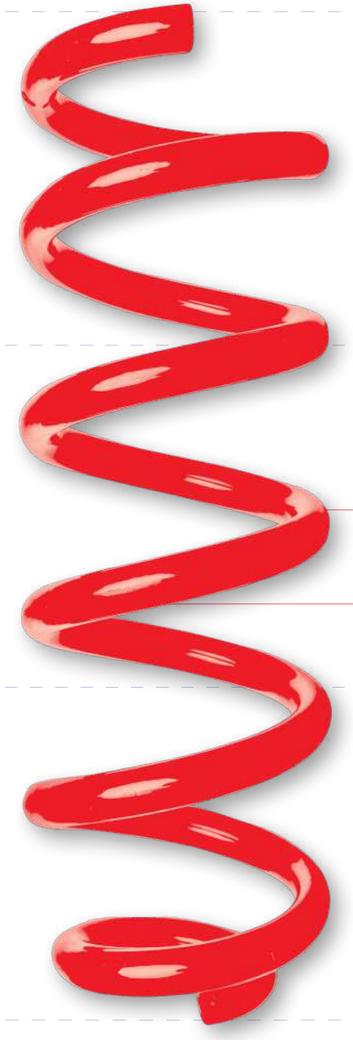
60%

Ensuring products made are recyclable.

AUTOMOTIVE STRATEGIES

OPERATIONAL PROFESSIONALS

Most important sustainability strategies for reducing emissions:



RANK 1

60%

Investing in GHG reducing technologies.

RANK 2

60%

Purchasing energy from renewable resources.

RANK 3

57%

Investing in new technology to improve energy efficiency (e.g. new engines or machinery).

Top three drivers for effectively improving sustainability in your business:

RANK 1

61%

Long-term financial gain.

RANK 2

60%

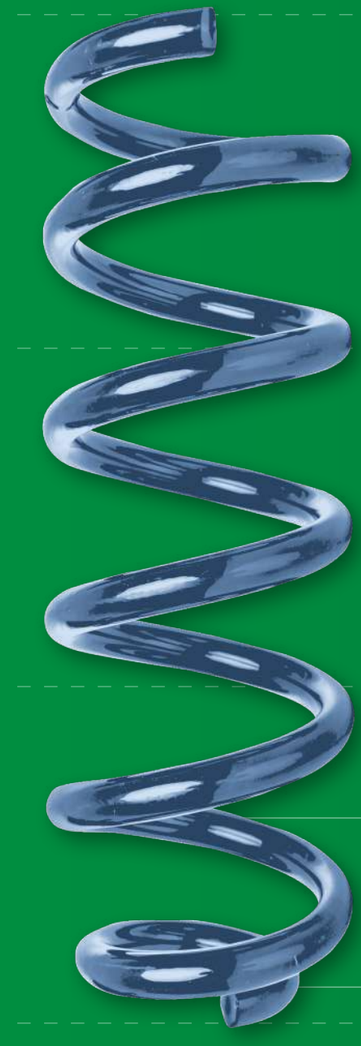
Achieving better outcomes for the planet.

RANK 3

58%

Competitive advantage.

Top three barriers in preventing focus on sustainability in your business:



RANK 1

53%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

RANK 2

51%

Lack of sustainable technology at a commercially viable cost.

RANK 3

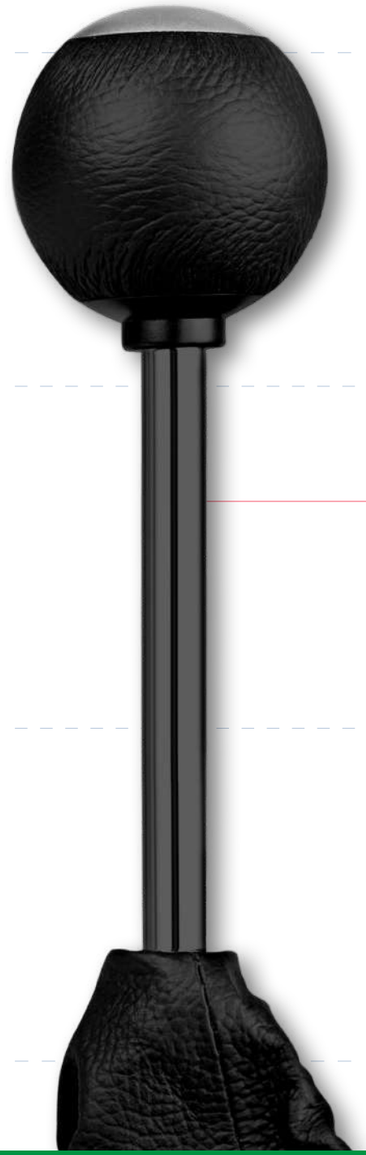
51%

Lack of clear targets.

AUTOMOTIVE STRATEGIES

BUSINESS LEADERS

Most important sustainability strategies for reducing emissions:



RANK 1

61%

Investing in new tech to improve energy efficiency.

RANK 2

61%

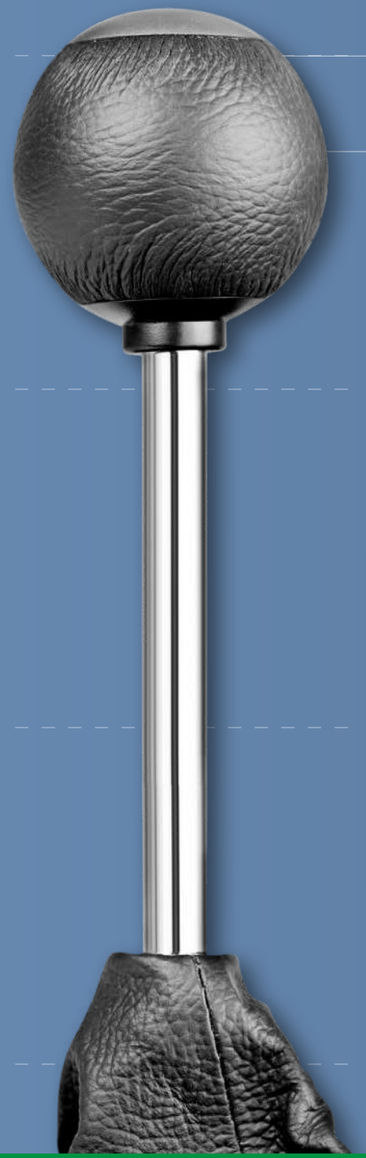
Better maintenance to improve energy efficiency.

RANK 3

61%

Transitioning to low carbon fuels.

Top three drivers for effectively improving sustainability in your business:



RANK 1

70%

Increased operational efficiency/cost savings from sustainable practices.

RANK 2

68%

Better insight from data.

RANK 3

68%

Achieving better outcomes for the planet.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

61%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

RANK 2

58%

Focus on short-term financial performance by investors.

RANK 3

57%

Focus on short term performance due to COVID-19 pandemic.

SECTOR SPOTLIGHT

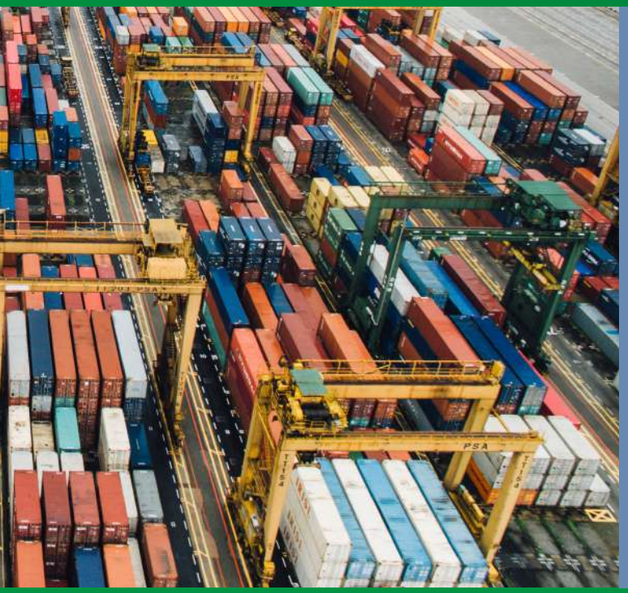
INDUSTRIAL

EFFICIENCY GAINS

Organisations in the industrial sector had a laser-like focus on energy efficiency, and both operational professionals and business leaders suggested that their key strategies include investing in new technology, better maintenance and using data insights to improve energy efficiency. Yet this study revealed that this sector has also been more impacted by the COVID-19 pandemic than others, with business leaders citing it as both a key sustainability barrier and driver.

Who were the sample?

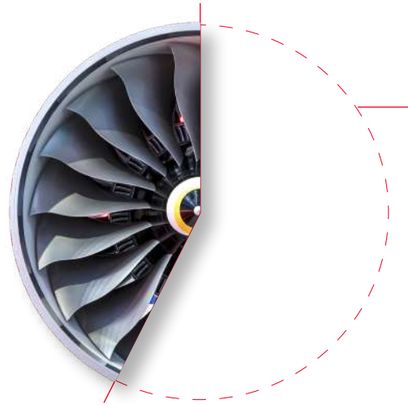
400 operational professionals and 275 business leaders working across industrial sectors including **machine manufacturing, aerospace, metals and wind energy.**



In manufacturing processes there are many opportunities to save energy, waste and water; there isn't a single fix. Castrol is collaborating across the supply chain, working with manufacturers and other partners to find energy-saving and waste-reduction opportunities, and helping customers to achieve their sustainability goals."

Rebecca Yates, *VP Advanced Mobility & Industrial Products*

How important are the following aspects of sustainability to your business?



BUSINESS LEADERS

43%

Ensuring products made are recyclable or biodegradable.

40%

Reducing waste to landfill.

OPERATIONAL PROFESSIONALS

58%

Energy efficiency.

56%

Ensuring products used are recycled.

INDUSTRIAL STRATEGIES

OPERATIONAL PROFESSIONALS

Most important sustainability strategies for reducing emissions:

RANK 1

55%

Better maintenance to improve energy efficiency.

RANK 2

54%

Purchasing energy from renewable resources.

RANK 3

54%

Investing in new technology to improve energy efficiency (e.g. new engines or machinery).

Top three drivers for effectively improving sustainability in your business:

RANK 1

60%

Achieving better outcomes for the planet.

RANK 2

58%

Competitive advantage.

RANK 3

57%

Long-term financial gain.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

52%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

RANK 2

48%

Lack of sustainable technology at a commercially viable cost.

RANK 3

47%

Lack of clear business strategy for delivering sustainability.

INDUSTRIAL STRATEGIES

BUSINESS LEADERS

Most important sustainability strategies for reducing emissions:

RANK 1

43%

Investing in new tech to improve energy efficiency.

RANK 2

43%

Transitioning to low carbon fuels.

RANK 3

41%

Using insight from data generated by processes to improve energy efficiency.

Top three drivers for effectively improving sustainability in your business:

RANK 1

53%

Impact of the COVID-19 pandemic.

RANK 2

42%

Long-term financial gain.

RANK 3

40%

Increased operational efficiency/cost savings from sustainable practices.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

42%

Focus on short term performance due to COVID-19 pandemic.

RANK 2

37%

Focus on short-term financial performance by investors.

RANK 3

36%

Lack of support for sustainability from my business's leadership team.

SECTOR SPOTLIGHT

MANUFACTURING

REDUCE, REUSE AND RECYCLE

Businesses in the manufacturing sector were focused on reducing waste in order to make them more sustainable. Reducing waste to landfill is the top organisational priority according to both operational professionals and business leaders, followed by ensuring products used are recycled (operational professionals) and ensuring products made are recyclable or biodegradable (business leaders).

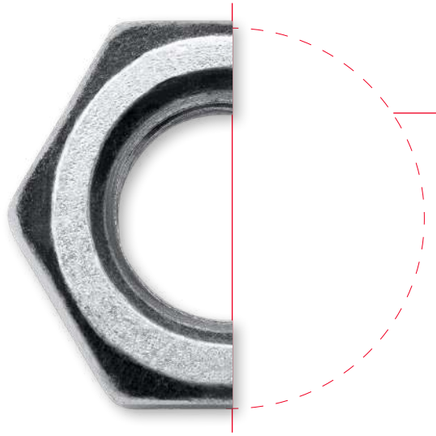
Who were the sample?

400 operational professionals and 275 business leaders, working in the manufacture of **chemicals, food and beverage, pharmaceuticals, paper and plastics.**

Companies will need to be relentless in their search for efficiency gains, exploring every avenue and making incremental improvements wherever possible. Manufacturing companies are pursuing a range of strategies to improve energy efficiency and reduce waste, and Castrol is working with some of them to develop new products and services that can help them operate in a more sustainable way."

***Susan Frame,** Global Marketing Director, Castrol Industrial*

How important are the following aspects of sustainability to your business?



BUSINESS LEADERS

50%

Reducing waste to landfill.

50%

Ensuring products are recyclable or biodegradable.

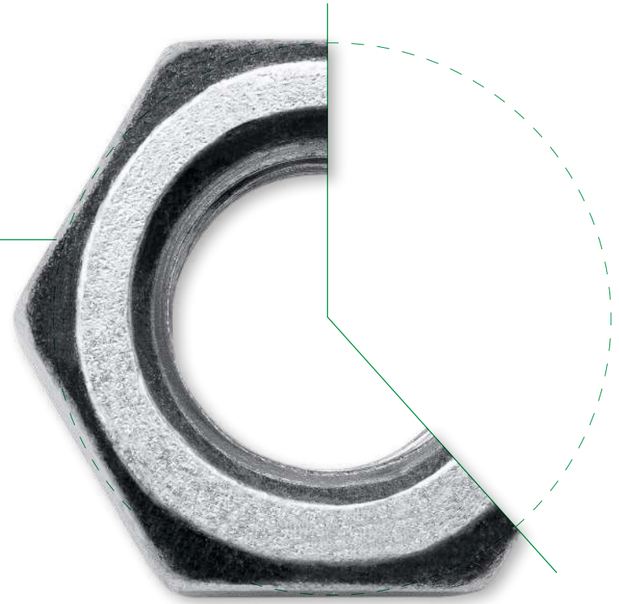
OPERATIONAL PROFESSIONALS

62%

Reducing waste to landfill.

62%

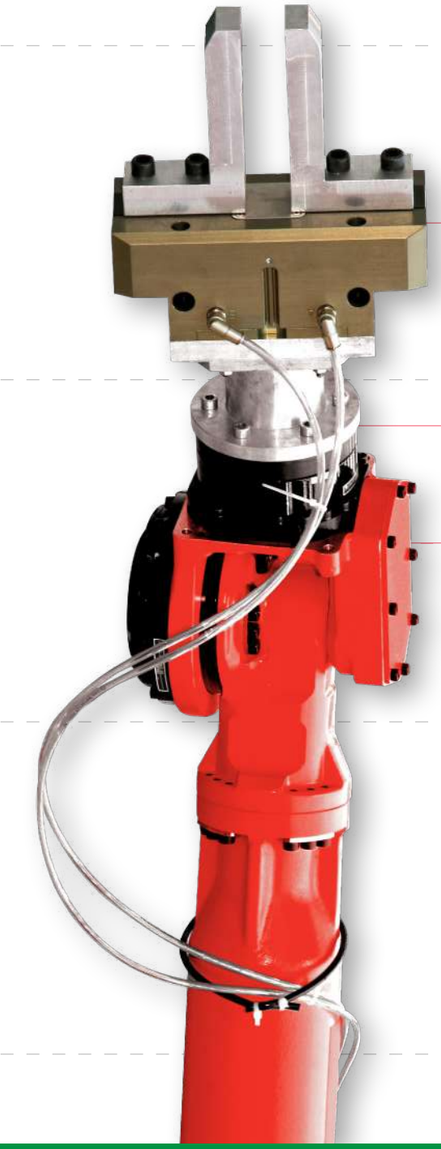
Ensuring products used are recycled.



MANUFACTURING **STRATEGIES**

OPERATIONAL PROFESSIONALS

Most important sustainability strategies for reducing emissions:



RANK 1

66%

Investing in new technology to improve energy efficiency (e.g. new engines or machinery).

RANK 2

63%

Modifying processes to improve energy efficiency.

RANK 3

60%

Better maintenance to improve energy efficiency.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

54%

Lack of return on investment.

RANK 2

52%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

RANK 3

52%

Lack of clear business strategy for delivering sustainability.

MANUFACTURING **STRATEGIES**

BUSINESS LEADERS

Most important sustainability strategies for reducing emissions:

RANK 1

49%

Investing in new tech to improve energy efficiency.

RANK 2

47%

Investing in new greenhouse gas emission reducing technologies.

RANK 3

47%

Better maintenance to improve energy efficiency.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

40%

Lack of capital to fund our sustainability strategy.

RANK 2

39%

Focus on short term performance due to COVID-19 pandemic.

RANK 3

39%

Lack of support for sustainability from my business's wider leadership team.

SECTOR SPOTLIGHT

MARINE

SAILING AHEAD

Organisations in the marine sector – particularly business leaders – were hugely positive about their sustainability progress. Almost all business leaders in this sector (98%) believed their organisation will reach net zero by 2050 (compared to 89% across all sectors), 96% said they have clear sustainability criteria attached to every procurement decision (compared to 65% across all sectors) and 99% believed that their businesses has a clear sustainability strategy which is widely understood (compared to 62% across all sectors).

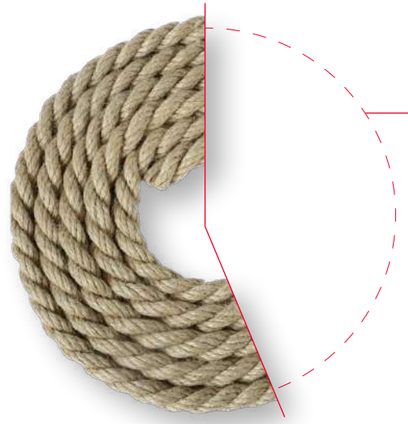
Who were the sample?

480 operational professionals and 355 business leaders involved in support services for the **naval, leisure and commercial marine industries.**

“At the heart of Cosco Shipping’s sustainability strategy are five core qualities: innovative, coordinated, green, open, and shared development. With our global outlook, international network and extensive resources, we are well-placed to tackle sustainability challenges and to make the most of opportunities. To reach our sustainability goals we are focusing on innovation-driven development, digital transformation and cultivating the right talent, endeavouring to create a new ecosystem of smarter, greener shipping. We believe it is crucial to contribute to coordinated development at the industrial, regional, national and global level, working together on energy conservation, emissions reduction and environmental protection.”

Xu Li Rong, *former Chairman of Cosco Shipping Group*

How important are the following aspects of sustainability to your business?



BUSINESS LEADERS

61%

Reducing waste to landfill.

59%

Ensuring products made are recyclable or biodegradable.

OPERATIONAL PROFESSIONALS

63%

Energy efficiency.

63%

Reducing waste to landfill.

MARINE STRATEGIES

OPERATIONAL PROFESSIONALS

Most important sustainability strategies for reducing emissions:

RANK 1

61%

Investing in new technology to improve energy efficiency (e.g. new engines or machinery).

RANK 2

61%

Better maintenance to improve energy efficiency.

RANK 3

59%

Investing in new greenhouse gas emission reducing technologies.

Top three drivers for effectively improving sustainability in your business:

RANK 1

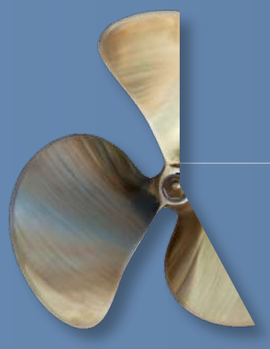
62%

Long-term financial gain.

RANK 2

61%

Increased operational efficiency/cost savings from sustainable practices.



RANK 3

60%

Competitive advantage.

Top three barriers in preventing focus on sustainability in your business:

RANK 1

54%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

RANK 2

50%

Lack of sustainable technology at a commercially viable cost.

RANK 3

50%

Lack of support for sustainability from my business's leadership team.

MARINE STRATEGIES

BUSINESS LEADERS

Most important sustainability strategies for reducing emissions:

RANK 1

67%

Investing in new tech to improve energy efficiency.

RANK 2

63%

Investing in new greenhouse gas emission reducing technologies.

RANK 3

53%

Better maintenance to improve energy efficiency.

Top three drivers for effectively improving sustainability in your business:

RANK 1

50%

Impact of the COVID-19 pandemic.

RANK 2

49%

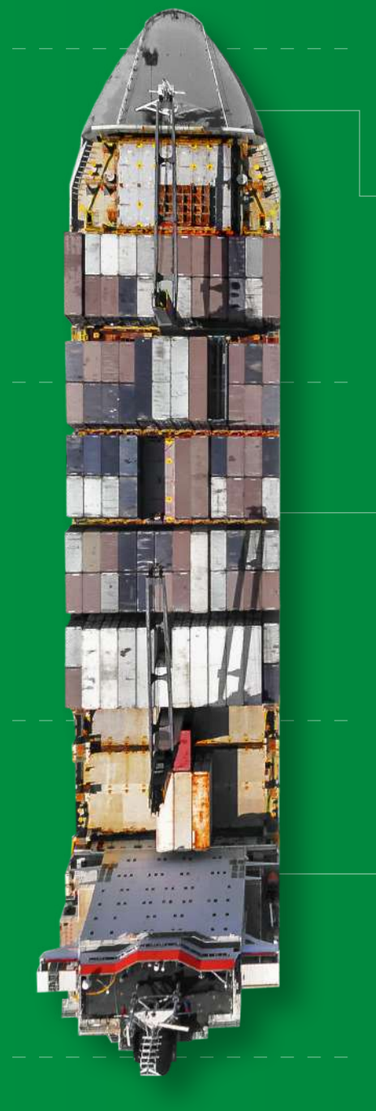
Increased operational efficiency/cost savings from sustainable practices.

RANK 3

49%

Legislation and regulation.

Top three barriers in preventing focus on sustainability in your business:



RANK 1

48%

Focus on short term performance due to COVID-19 pandemic.

RANK 2

46%

Focus on short-term financial performance by investors.

RANK 3

42%

The lifespan of key technology (e.g. carbon reliant tech that won't need replacing for a long time).

ABOUT PATH360

PATH360 is Castrol's overarching sustainability strategy.

It focuses on reducing carbon, saving waste, and working to improve people's lives around the world as well as contributing to our overall aim of becoming net zero by 2050 or sooner. It also shows how our efforts can help our customers in the automotive, industrial, manufacturing, and marine sectors achieve their sustainable objectives.

[1]As part of bp's ambition to be net zero by 2050 for sooner.

ABOUT Castrol

Castrol, one of the world's leading lubricant brands, has a proud heritage of innovation and fuelling the dreams of pioneers.

Our passion for performance, combined with a philosophy of working in partnership, has enabled Castrol to develop lubricants and greases that have been at the heart of numerous technological feats on land, air, sea and space for over 100 years.

Today, Castrol is helping drive sustainability with our strategy that sets out aims for 2030 to save waste, reduce carbon and improve lives.

Castrol is part of the bp group and serves customers and consumers in the automotive, marine, industrial and energy sectors. Our branded products are recognized globally for innovation and high performance through our commitment to premium quality and cutting-edge technology.

To find out more about Castrol please visit www.castrol.com

DISCLAIMER

Unless specified otherwise, references in this material, including this disclaimer, to "bp" and the "bp Group" shall mean bp International Limited and the subsidiaries and affiliates of bp p.l.c, including Castrol.

This material reflects findings from an independent research study, conducted by Man Bites Dog and commissioned by bp. The comments and data presented in the study reflect the views of the people that took part in the research, and these may not necessarily reflect the opinion or views of bp or any member of the bp Group.

This material has been produced for information and discussion purposes only and does not constitute advice or an invitation or recommendation to enter into any transaction. Some of the information appearing herein may have been obtained from public sources and while bp believes such information to be reliable, it has not been independently verified by bp.

The information contained in this material is not comprehensive. Despite our efforts, it may not be accurate, up to date or applicable to the circumstances of any particular case. We make no representation or warranty as to its accuracy or completeness. We cannot accept any liability for any inaccuracies or omissions (other than for fraudulent misrepresentation) in this material and any decisions you make based on information contained in this material are your sole responsibility.

Any opinions or views of third parties expressed in this material are those of the third parties identified, and not of bp or its affiliates. bp does not provide accounting, legal, regulatory or tax advice. This material does not provide any investment advice.

To the maximum extent permitted by law, neither bp nor the bp Group accept liability for any direct, indirect, special, consequential or other losses or damages of whatsoever kind arising out of access to, or the use of this material or any information contained in it. For the avoidance of doubt, nothing in these terms will limit bp's liability for death or personal injury arising from its negligence. If you are in a jurisdiction which does not allow for the limitation of liability in contracts, the foregoing limitation may not apply to you.

This material is not for distribution to any person to which, or any jurisdiction in which, its distribution would be prohibited. Copyright in all materials, text, articles and information contained herein (other than third party materials, text, articles and information) is the property of, and may only be reproduced with permission of an authorised signatory of bp. Copyright in materials, text, articles and information created by third parties and the rights under copyright of such parties are hereby acknowledged. Copyright in all other materials not belonging to third parties and copyright in these materials as a compilation vests and shall remain at all times copyright of bp and should not be reproduced or used except for business purposes on behalf of bp or save with the express prior written consent of an authorised signatory of bp. All rights reserved. bp International Limited, Chertsey Road, Sunbury on Thames, Middlesex, TW16 7bp.

Ownership of trademarks
bp and the Castrol mark are trademarks of bp p.l.c. These terms of use do not grant you any rights in any trade marks, trade names or logos owned by bp, its third party suppliers and contributors (including but not limited to Man Bites Dog, with registered company number 05156769).


Castrol