



# Integrating energy systems

Carol Howle  
EVP, trading and shipping

Thank you Dev.

Good morning, afternoon and evening everyone. I'm Carol Howle, the Executive Vice President for Trading & Shipping.

Today I'd like to expand on several of the areas that you've heard about from my colleagues, and to answer some of the key questions you've raised on our ability and confidence to become a world-leading integrated energy company within the next ten years.

The questions I'll cover are:

- What do we mean by integrating energy systems?
- How will we do this in bp?
- What is Trading & Shipping's role as an integrator, what is our track record and how will we amplify returns for bp through that integration?
- And where are some of the areas we can generate these increased returns for bp, while also supporting the transition to an integrated energy company?



# Cautionary statement

## Forward-looking statements - cautionary statement

In order to utilize the 'safe harbor' provisions of the United States Private Securities Litigation Reform Act of 1995 (the 'PSLRA') and the general doctrine of cautionary statements, bp is providing the following cautionary statement: The discussion in this results announcement contains certain forecasts, projections and forward-looking statements - that is, statements related to future, not past events and circumstances - with respect to the financial condition, results of operations and businesses of bp and certain of the plans and objectives of bp with respect to these items. These statements may generally, but not always, be identified by the use of words such as 'will', 'expects', 'is expected to', 'aims', 'should', 'may', 'objective', 'is likely to', 'intends', 'believes', 'anticipates', 'plans', 'we see', 'focus on' or similar expressions.

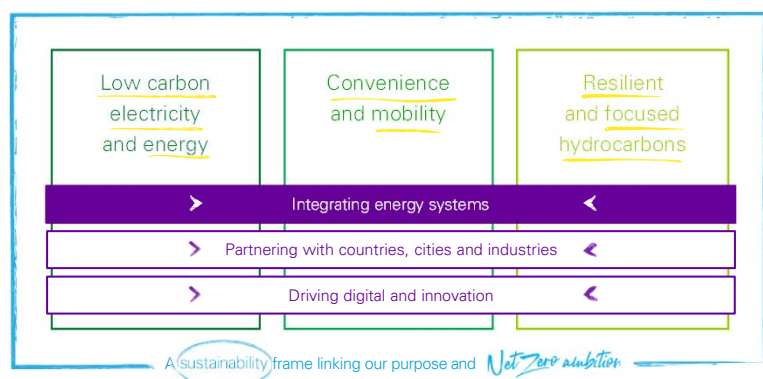
In particular, the following, among other statements, are all forward looking in nature: bp's new strategy to focus on low-carbon electricity and energy, convenience and mobility, cost and carbon resilient and focused hydrocarbons, including statements regarding integrating energy systems, partnering with countries, cities and industries and driving digital and innovation; plans and expectations to integrate across and along value chains, develop integrated offers for customers and generate returns across multiple markets and commodities; expectations regarding growth opportunities in renewable electricity, gas and power, bioenergy and new businesses such as Hydrogen; expectations regarding bp's ability to translate to new energy commodities in the future, enhance ROACE during the transition to an Integrated Energy Company, deliver incremental returns to the base hydrocarbon business to generate cash to support the transition and to super-charge activities in other business areas; plans and expectations regarding the Power business, including to support growth in low carbon electricity and deliver new energy solutions to commercial and industrial customers, scale up the trading platform to 500TWh over the next decade, build capability in new regions and new markets and look for new integration opportunities; plans and expectations regarding the LNG business, including to optimise LNG at scale to meet customers' needs, support portfolio expansion to 30mtpa or more by 2030 through a combination of equity and merchant positions, develop and market new integrated customer offers, balance the portfolio with demand and find the highest-value markets for bp's products; plans and expectations regarding the bioenergy business, including to optimise the bioenergy portfolio, integrate third-party bioenergy assets with bp assets, generate lower carbon intensity products for customers, manage bp's retail compliance obligations, offer new bioenergy customer solutions and manage market disruptions and create resilience in the value chain through diversity of supply; and plans and expectations regarding the Low Carbon Products & Trading business, including to develop, monetise and optimise the portfolio of low carbon products, develop new natural gas products which are expected to have greater value as the energy transition progresses, access around 100 Natural Climate Solutions projects in the portfolio by 2025 and to scale bioenergy offers.

By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will or may occur in the future and are outside the control of bp. Actual results may differ materially from those expressed in such statements, depending on a variety of factors, including: the extent and duration of the impact of current market conditions including the significant drop in the oil price, the impact of COVID-19, overall global economic and business conditions impacting our business and demand for our products as well as the specific factors identified in the discussions accompanying such forward-looking statements; changes in consumer preferences and societal expectations; the pace of development and adoption of alternative energy solutions; the receipt of relevant third party and/or regulatory approvals; the timing and level of maintenance and/or turnaround activity; the timing and volume of refinery additions and outages; the timing of bringing new fields onstream; the timing, quantum and nature of certain acquisitions and divestments; future levels of industry product supply, demand and pricing, including supply growth in North America; OPEC quota restrictions; PSA and TSC effects; operational and safety problems; potential lapses in product quality; economic and financial market conditions generally or in various countries and regions; political stability and economic growth in relevant areas of the world; changes in laws and governmental regulations; regulatory or legal actions including the types of enforcement action pursued and the nature of remedies sought or imposed; the actions of prosecutors, regulatory authorities and courts; delays in the processes for resolving claims; amounts ultimately payable and timing of payments relating to the Gulf of Mexico oil spill; exchange rate fluctuations; development and use of new technology; recruitment and retention of a skilled workforce; the success or otherwise of partnering; the actions of competitors, trading partners, contractors, subcontractors, creditors, rating agencies and others; our access to future credit resources; business disruption and crisis management; the impact on our reputation of ethical misconduct and non-compliance with regulatory obligations; trading losses; major uninsured losses; decisions by Rosneft's management and board of directors; the actions of contractors; natural disasters and adverse weather conditions; changes in public expectations and other changes to business conditions; wars and acts of terrorism; cyber-attacks or sabotage; and other factors discussed elsewhere in this report, and under "Risk factors" in bp Annual Report and Form 20-F 2019 as filed with the US Securities and Exchange Commission.

September 2020

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# Our strategy – an IEC delivering solutions for customers



Integration along value chains

Integration across value chains  
- physical and financial

Develop integrated offers  
for customers

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You've heard from Bernard and Giulia that integration is a key component of our strategy that will differentiate us from our competitors, create end-to-end solutions for our customers and unlock incremental value for bp, so what do we mean by integration?

There are three horizontals on the three by three structure – and there are three distinct capabilities on which we will focus:

- First, Digital - driving innovation and leveraging best practises and scale throughout bp. David will talk about this in more detail, and his team are a key enabler of integration and in developing tools for our customer offers;
- Second, partnering with countries, cities & industries - to pull together the 'best of bp' and deliver it to customers in the form of integrated multi-energy offers, which William will talk about;
- Third, integrating energy systems – which I'll focus on, covering what we mean by integration and how we can amplify returns for bp by integrating along and across the value chain; I'll then turn to Trading & Shipping and its role in support of bp's objectives.

For bp, integration means using our scale, our breadth of expertise, and our mix of bp assets and third party relationships to create multiple options for our bp products

and services, enabling us to deliver them in to the optimal markets at the optimal time.

And importantly, we make our final decision based on the best value for bp, not on the individual asset, service or product value.

So, how will we do this?

First, Integration along value chains. For example, using our global portfolio and expertise in logistics and risk management we can integrate our US crude production with our refinery demand in Australia, or in Europe, or we can deliver the production to meet our customers' needs in China.

Second, integration across value chains. We don't look along a single value chain only, we also look at integration across multiple products and services and multiple geographies and customers. For example, we couple renewable power supply, from wind & solar, with gas-fired generation to address intermittency and offer customers firm, reliable electricity. And we can offer an offset for the carbon with credits derived from our Natural Climate Solutions portfolio – and, now, we have firm, reliable, low carbon electricity.

Third, we develop integrated offers for our customers. These can be at the country, city, industry or corporate level. For example, we develop and deliver lower carbon intensity physical products for transportation coupled with carbon credits to manage the customers compliance obligations.

In bp we have a long history of providing competitive, reliable energy solutions to our customers. So, this is not new to us.

We are already integrated along and across our traditional hydrocarbon business, though we are not complacent and are continuously looking for improvement. And we are leveraging this capability, and our technical and trading expertise to extend this integration through our low carbon energy business.

Through our global presence in oil, gas and power value chains - including retail, electric vehicle charging, renewables, biofuels, improved production and operations, and carbon sequestration - we have the capability to provide multi-energy solutions to customers, and to generate returns across multiple markets and commodities as the energy complex transitions.

And as you heard from Dev, we see significant growth opportunities in our renewable electricity, gas and power and our bioenergy businesses. As well as looking at the creation of new businesses, such as Hydrogen.

Before I turn to Trading and Shipping, our role as an integrator and how we will amplify returns, I'd like to introduce you to T & S and what we do.

# A leading energy trading company



We buy, sell and move energy for bp

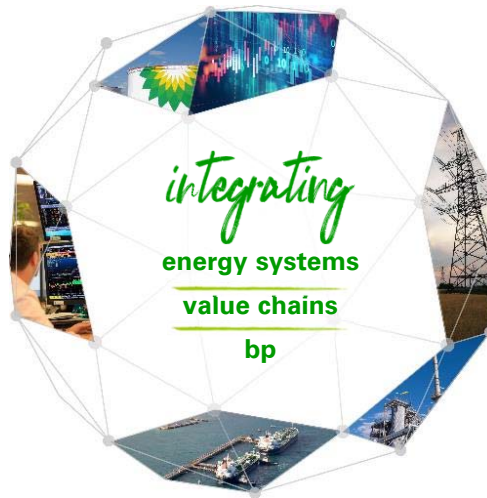
We link fractured value chains

We amplify returns for bp

**240m**  
tonnes oil, gas and  
products moved every year

**140**  
countries

**4bn**  
barrels of crude  
traded annually



**12,000**  
customers

**up to 2%**  
ROACE<sup>1</sup> uplift

Products we trade: ■ crude & products ■ natural gas & LNG ■ biofuels ■ chemicals ■ currencies ■ power ■ carbon ■ financial

(1) Return on average capital employed as defined in bp's 2019 annual report

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I'm proud to be leading an organisation with a long history of driving integration across bp and of providing competitive, reliable energy solutions to our customers.

And I am excited about our role as an integrator and what we can bring to bp.

We will be working to connect both along and across the value chains for bp in the most efficient way, to the most optimal markets and customers, and to structure customer solutions to capture additional value and generate new revenue streams.

We do this by:

Working with our colleagues across bp to identify commercial opportunities, develop aligned approaches to new markets, optimise bp's portfolio, structure integrated solutions and manage any associated risk.

We use our analytics and digital tools to develop insights into changes in supply and demand at a macro and micro level, and to optimise across our contracts and logistics.

We also access third party assets, often through leases or partnerships, to link bp's assets across multiple supply opportunities, customer shorts and geographies. This creates flexibility and resilience in managing supply and demand disruptions.

We then leverage this access, and the range of commodities we supply and trade, to

improve the value of netbacks for bp, and to meet our customer's needs through integrated offers.

Our asset-light model also enables us to scale in and out of opportunities dynamically, extracting rent across the value chain with shorter payback periods and quicker cash conversion. This is particularly important in the energy transition as value shifts both along and across the value chain.

And we have built a deep set of capabilities which we are confident will translate to new energy commodities in the future.

So, why are we confident in our ability to deliver integration value and amplified returns for bp?

We have a track record of doing this at scale today, and on average T and S adds up to 2% to bp's overall Return on Average Capital Employed, or ROACE.

We have experience in developing new products and markets, such as our biofuels and low carbon product businesses, of accessing new markets to provide optionality for our production and refined products, of structuring customer solutions and of managing the risk of a cross-commodity global portfolio.

By leveraging bp's scale and balance sheet in a capital-light manner, our unique capabilities are expected to continue to enhance bp's ROACE as we transition to an Integrated Energy Company.

But I think that the best way to bring this to life is with some examples.



# Driving integration through new and established activities



## Integration & growth



We see opportunities for integration and growth across bp, but the first point to make, is that we expect to continue to deliver incremental returns to our base hydrocarbon business, generating cash to support the transition.

For example, we work with our operations teams on finding the most advantaged homes for our production, on accessing the lowest cost feedstocks for our refineries, on our co-processing flexibility of bio-feedstocks, and with our marketers on developing retail and wholesale markets for our products. Through integration with refining and marketing in midstream we have tripled the value from integration in the past five years.

During the peak of COVID our integration enabled us to optimise bp crude production, refinery requirements, and customer demand as one team. Our refineries were able to run at an average utilisation of 70.7%, we had no flow assurance issues with our production, and we accessed customer shorts across the globe.

Our mix of bp and third-party positions creates resilience in the portfolio as well as commercial optionality.

We will also continue to leverage our infrastructure, capabilities, customers and proactive treasury organisation throughout ordinary and extreme market conditions such as a super-contango. And we saw this during the second quarter where the



team maximised access to storage to monetise market structure and deliver cash to bp.

As well as our hydrocarbons business, we will seek to super-charge our activities in some areas. These will not be the only areas where we drive value for bp, but are ones where as an integrator, we will play a key role in helping these new business models win.

The four areas we'll talk about today are:

- First, we will scale up our Power footprint – to support bp's growth in low carbon electricity and delivering new solutions for next-gen mobility;
- Second, we will focus on LNG – to support the development of new gas opportunities and to bring integrated gas solutions to customers on a global scale;
- Third, we will scale the existing biofuels business and capability – to support growth and optimisation of bp's bioenergy portfolio and increase integration across the value chain; and
- Finally, we will concentrate on Low Carbon Products & Trading – This will build on bp's low and zero carbon energy offering for customers globally and will support Aim Three.

And underpinning everything that we do is our focus on safety and compliance, always acting with respect and integrity with our customers and in the market.

# Scaling the power portfolio, and connecting with customers



Expand existing businesses  
in US, Europe and Brazil

Enter new markets  
China, India and Latin America

Link generation  
with new demand



- (1) Low carbon electricity & energy  
(2) Consumer & industrial  
(3) Customer & products  
(4) Region, cities and solutions

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Starting with power. The significant growth of our power portfolio is at the center of our move to an Integrated Energy Company from an International Oil Company.

Today, we trade around 250 Terawatt hours of electricity across the US, Europe and Brazil. Over the next decade, we intend to scale up the platform to approximately 500 Terawatt hours through expansion into new markets and customers.

For example, we are in the process of building our capability in new regions and placed electricity traders in Brazil over the last year.

And we will continue to look for integration opportunities across Customers & Products, Regions, Cities and Solutions, and Gas and Low Carbon Energy - and we will also use our existing strategic relationships such as Lightsourcebp - to ensure that we fully optimise bp's portfolio and investments.

For example, we've linked the Lightsourcebp Impact solar asset with our BPX Energy assets in West Texas, as part of an overall electrification plan, which is expected to reduce electricity costs by around \$12 million per annum for BPX Energy.

And with the Whiting refinery we developed a solution to serve their load through the wholesale market, expected to provide savings of around \$40 million per year.

And as you heard from Dev, we also plan to grow our low carbon electricity activity, and trading and marketing will be a key part of this plan in generating merchant length and customer demand.

In the US, our gas and power team serve over 100 cities to meet their energy needs. We supply gas, and renewable gas, we manage logistics and storage, we optimise a mix of renewable assets to manage intermittency, and we manage the risk for bp and our customers.

As an example, we have an agreement to serve a city in Ohio - with a population of over 1 million - from 2021 to 2025 to serve the fluctuating load of the city at a fixed price. The estimated supply we expect to serve is nearly 4 Terawatt hours.

As part of our growing portfolio, we've executed long term agreements with a key customer, Amazon, to link solar and wind generation across multiple European countries to create a reliable renewable electricity portfolio. This plays to both bp's strength – leveraging our risk management and trading capability - whilst also working with Amazon to achieve their world class sustainability and net zero ambitions. These partnerships are fostered in an integrated way with bp's Innovation and Engineering team and are just the start as we collaborate on further low carbon opportunities.

Over the past 18 months we've contracted up to 1.5 gigawatts of renewable merchant capacity across the globe, and working with Dev and his team we will continue to build a flexible portfolio of equity and merchant renewable generation.

With Dev and William's teams, we will leverage our experience, capabilities and customer relationships across bp to develop, structure and monetise our renewable generation capacity. And we will look at new markets, such as China and India and other Latin American countries as they deregulate to create new customer demand and to help balance our own generation capacity.

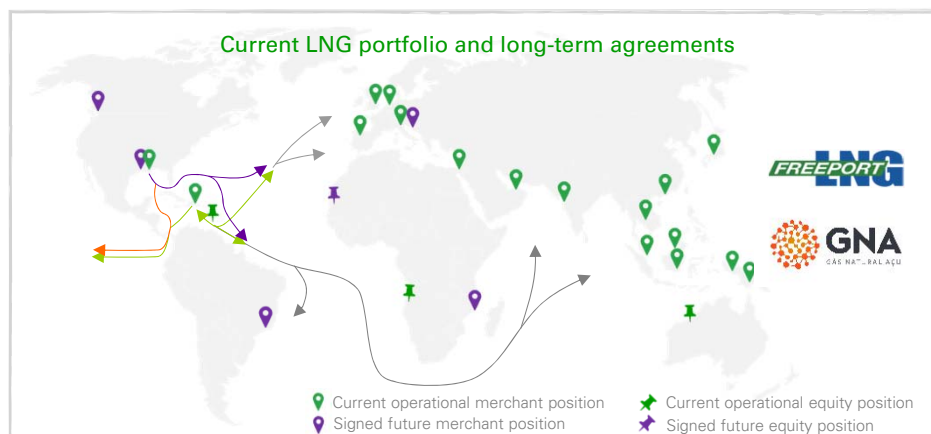
As we expand the portfolio, T and S will also be able to offer integrated solutions to commercial and industrial customers, incorporating new solutions such as energy management and energy efficiency products and services.

# Optimising LNG at scale to meet our customers' needs



Support portfolio expansion to 30 mtpa by 2030  
Balance of equity and merchant positions

Develop and market new  
integrated customer offers



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Turning to LNG, and our objective of expanding our balanced LNG portfolio from 15 million tonnes per annum in 2019 to over 30 million tonnes per annum by 2030.

To provide some context, our LNG delivered volumes have already increased by 75% from 2017- 2019.

We will enable the expansion of the portfolio through a combination of equity led and merchant positions, and sales into new and existing markets. This model gives us flexibility in how we optimise across the portfolio, increase value, and manage risk.

Our equity and contracted merchant projects alone - such as Freeport in the US at 4.4 million tonnes per annum, and Mozambique at three million tonnes per annum - are adding around 12 million tonnes per annum of LNG to our portfolio, showing that we are well on our way to 30 million tonnes per annum by 2030.

The larger portfolio also creates additional value during short term disruptions. For example, we were able to create additional value during the height of COVID, leveraging flexibility in our merchant volumes and shipping capacity to optimise our Trinidad offtake.

We are also focused on customers, and we have 10 million tonnes per annum of sales across China, Japan, Taiwan, Thailand, Singapore, India, Croatia, Netherlands Dominican Republic, Spain and Brazil. In addition, the business has flexible regas

positions in the UK and Spain.

We will continue to balance the portfolio with demand, working in partnership with Dev and his team to develop new products and new markets.

For example, we offer LNG risk management solutions - including LNG priced to other commodities or indices - such as the sales to Foran Energy and ENN Group, allowing sales of domestic pipeline gas in China on an LNG pricing basis.

And we are able to develop new hubs together, such as the three gigawatt integrated LNG to power project in Porto Açu in Brazil, making it the largest combined cycle gas turbine plant in Latin America.

We will also look to develop a carbon neutral LNG offer, bundling physical gas with carbon offsets or other environmental attributes from bp's own low carbon production.

And, we use cutting edge tools to fully optimise the portfolio across purchase and sale contracts, shipping, liquefaction and regasification capacities on an intra-day basis.

Combining our capabilities and offer across bp means we are able to find the highest value markets for our products, and as market dislocations materialise we are able to extract further value to increase returns for bp.

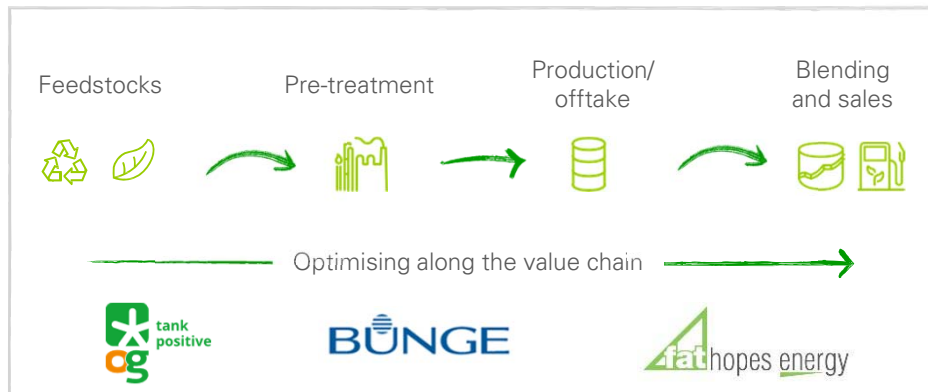
# Applying established skills to grow our bioenergy business



Secure sustainable low carbon feedstocks

Focus on biofuels such as renewable diesel, biochemicals, biogas, biojet

Deliver integrated customer offers



CO<sub>2</sub> eliminated through bp's renewable diesel portfolio

*7m tonnes*

- Integrate third-party supply and markets with bp assets
- Optimise bp's retail compliance obligations
- New customer solutions

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Turning to Bio-energy, Biofuels are not new to us and we have been active in this space for well over five years. Since 2015, the value of our bio portfolio has more than doubled.

We've achieved this by integrating with Gordon and Emma's teams, with virtual team structures and performance transparency, to collectively maximise value from feedstocks through to demand at bp's retail sites and sales to third parties.

This integration enables us to optimise our portfolio, to diversify our supply to provide the most advantaged feedstock for our refineries, to generate lower carbon intensity products for customers, and to manage our compliance obligations in North America and Europe. The diversity of supply also allows us to manage market disruptions and create greater resilience in the value chain.

For example, we recently purchased soybean oil from Bunge and co-processed it at Cherry Point refinery to produce renewable diesel, which we then delivered to our customers in Oregon and California.

We also have a partnership with Fat Hopes, a Malaysian company, that aggregates used cooking oil from fast food restaurants in South East Asia, providing bp with an advantaged feedstock that we can incorporate into our overall portfolio.

We are also able to achieve economies of scale through our integration. For

example, in the supply of ethanol into the bp system in Jacksonville. By contracting third party sales in the region in addition to bp's own demand, we've been able to reduce average incremental throughput costs for the facility by 25%.

Working closely with Emma and Dev's teams, we will continue to integrate equity, third party supply and market access - across the globe - in renewable diesel, sustainable aviation fuel, bio naphtha, bio LPG and biogas.

On bio-gas, we continue to build our portfolio of renewable natural gas feedstocks including biomass, landfill and animal waste. As a fuel for natural gas vehicles, including heavy-duty trucks, renewable natural gas results in around 70% lower greenhouse gas emissions on a life cycle basis than from equivalent diesel fuel vehicles.

And we are already one of the largest suppliers of renewable natural gas to the US transportation sector through our Mavrix non-operated joint venture with Aria Energy, and our supply agreement with Clean Energy Fuels. In 2019, this agreement delivered renewable natural gas equivalent to around 124 million gallons of diesel. And in June 2020 Mavrix agreed its first dairy manure development with three farms in the Central Valley of California.

The breadth of our portfolio and the capabilities across all of our bp teams also enable the optimisation of bp's retail bio compliance obligations, unlocking around \$2-3 per barrel of value through our deep understanding of market requirements, and our world class blending and physical operations.

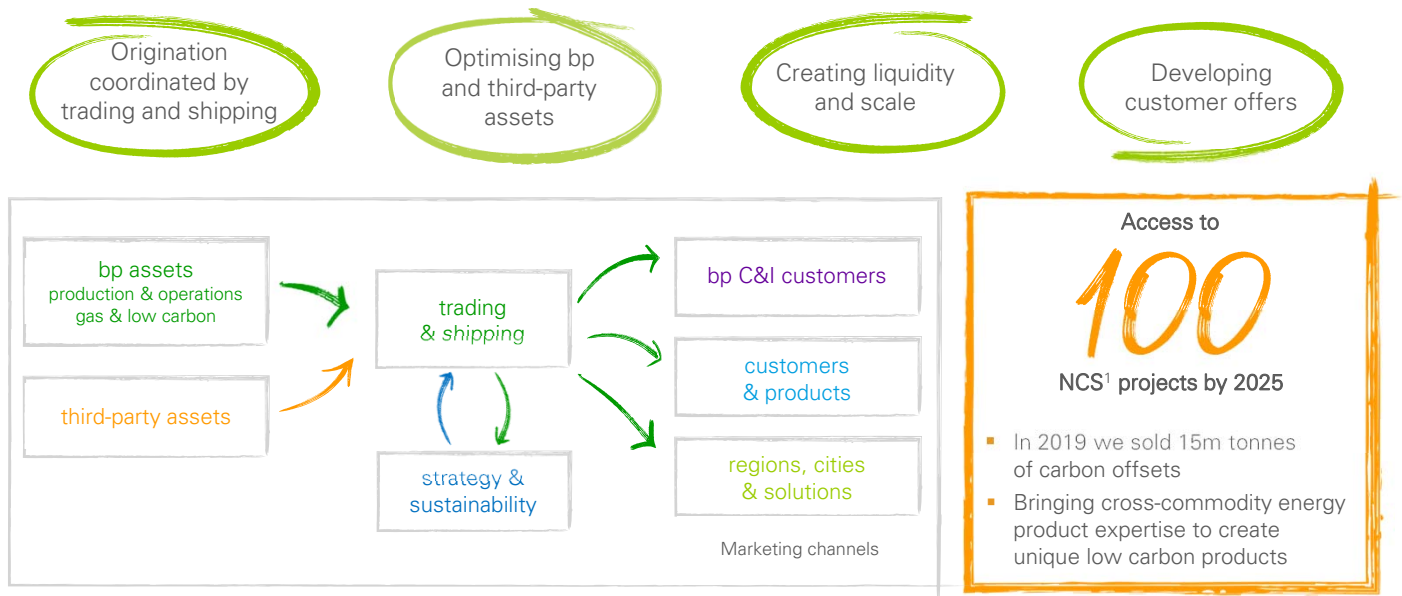
Partnering with Dev and William's teams, we are developing offers to incorporate renewable natural gas into multi-energy solutions for cities and municipalities.

And when combined with our risk management capability and expertise in power and low carbon trading, we are also able to offer innovative solutions to customers across ground transport, aviation, marine and industrial and commercial sectors.

Which takes us to low carbon products.



# Meeting customer needs for carbon management



(1) Natural climate solutions

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We are well positioned and connected across bp to develop, monetise and optimise our portfolio of low carbon products.

We are already an established player in the environmental products space and over the last six years we have developed one of the largest portfolios of contracted credits of any company in North America, equivalent to 50 million tonnes.

Our portfolio, customer access, and technical expertise means we are able to generate offers that meet or exceed market and customer requirements, thereby enabling us to generate higher values.

In 2019 we sold 15 million tonnes of carbon offsets in the global markets, with the expectation that we will increase volumes through customer offers as demand for these products increases.

For example, through accessing Customers and Products and Trading and Shipping customers we have sold over 30 million tonnes of credits to airlines over the last seven years as part of their compliance requirements under the European Emission Trading Scheme.

And we are working with Gas and Low Carbon Energy and Production and Operations to develop natural gas products, which can be differentiated on the basis of relatively low operational methane emissions, and which we then aim to market

through our established and growing customer base in the US and other developing markets.

On their own, these products are expected to have greater value as the energy transition progresses, but we can further enhance that value by converting these advantaged products into the highest value carbon product for bp.

And in the next presentation, you will hear more from William about an opportunity in the US where similar solutions can be included.

Turning to Natural Climate Solutions or NCS, Giulia talked to NCS being an 'and' to our emissions reductions. And that in the next 10 years, we expect to be able to deliver our bp Aims without relying on offsets.

In developing Natural Climate Solutions, we aim to create carbon offsets that are required for regulatory compliance purposes, or can be sold to our customers either on a standalone basis or bundled with other energy products to help them transition to low carbon solutions on a voluntary basis.

By 2025, we expect to have access to carbon credits from around 100 NCS projects in our portfolio, including a range of pathways from avoided deforestation, mangrove restoration, improved forestry management and reforestation in a wide range of geographies.

In the US, we've already started to market a Carbon Offset Natural Gas product for customers who require physical natural gas but would also like to offset the carbon impact of the product.

Using our global portfolio and scale, we can offer this as a service to smaller customers where it would be cost prohibitive for them to do on their own. This can be scaled globally and across the many products we trade to help customer segments.

As we scale our offers we will also work with Innovation and Engineering to develop digitised customer platforms and interfaces to facilitate growth at scale, and you'll hear more about this later from David as well.

I'm excited about the opportunities ahead of us, and of the role that Trading and Shipping can play in contributing to bp's aims, and these four areas are just some of the places that we are applying our capability to - and driving integration on.

# Driving integration in everything we do



## *Proven track record*

- 30-year history driving integration across bp and customers
- Delivered distinctive value and accelerated cash conversions – up to 2% uplift to bp ROACE<sup>1</sup>

## *Deeply integrated across bp and with partners*

- Extract value from current portfolio and develop growth options together

## *Monetise commercial opportunities*

- Optimising bp's portfolio in a capital light way
- Access to a dynamic, global asset footprint
- Develop integrated customers energy solutions

A leading energy trading company

## *Flow assurance across bp's product portfolio*

- De-risking value chains by leveraging global outreach
- Customer access and innovative solutions
- Expertise across energy products

(1) Return on average capital employed as defined in bp's 2019 annual report

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The key messages I'd like to leave you with are:

- bp has a valuable role to play in integrating energy systems and we are doing this today;
- We see numerous commercial opportunities across the energy complex as disruptions in value chains occur, and we are confident in our ability to monetise them;
- We are integrated across bp and working as one team to extract value from our current portfolio as well as developing growth options together;
- Trading & Shipping has a proven track record of delivering distinctive value of up to 2% ROACE overall to bp;
- Trading & Shipping has a dynamic portfolio, which doesn't generally call upon bp capital, allowing us to scale in and out of positions, to generate shorter paybacks and to accelerate cash conversion; and
- We are one of the leading energy trading companies in the world.

Thank you, and I'll now hand over to William.