



# INTEGRATED GAS

Strategy deep dive

Royal Dutch Shell plc

**February, 2021**

**#PoweringProgress**

# CAUTIONARY NOTE

This presentation contains the following forward-looking Non-GAAP measures: Adjusted Earnings, Cash capital expenditure, Underlying operating expenses, and Divestment proceeds. We are unable to provide a reconciliation of the above forward-looking Non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile the above Non-GAAP measure to the most comparable GAAP financial measure is dependent on future events some which are outside the control of the company, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures consistent with the company accounting policies and the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Royal Dutch Shell plc's financial statements. The future potential for Cash capital expenditure and cash flow from operations is an average of multiple years. The presented medium-term outlook is an average of multiple years post economic recovery. Shell's reporting segments under IFRS 8 remain Integrated Gas, Upstream, Oil Products, Chemicals and Corporate.

Also, in this presentation we may refer to Shell's "Net Carbon Footprint", which includes Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell's "Net Carbon Footprint" is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries. It is important to note that as of February 11, 2021, Shell's operating plans and budgets do not reflect Shell's Net-Zero Emissions target. Shell's aim is that, in the future, its operating plans and budgets will change to reflect this movement towards its new Net-Zero Emissions target. However, these plans and budgets need to be in step with the movement towards a Net Zero Emissions economy within society and among Shell's customers.

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# THE SHELL INVESTMENT CASE

RESPECTING **NATURE**  
Protecting the environment, reducing waste and making a positive contribution to biodiversity

UNDERPINNED BY  
OUR **CORE VALUES**  
AND OUR FOCUS  
ON **SAFETY**



## POWERING **PROGRESS**

Our strategy to accelerate the transition to net-zero emissions, purposefully and profitably



## GENERATING **SHAREHOLDER VALUE**

Growing value through a dynamic portfolio and disciplined capital allocation



## POWERING **LIVES**

Powering lives through our products and activities, and supporting an inclusive society



## ACHIEVING **NET-ZERO EMISSIONS**

Working with our customers and sectors to accelerate the energy transition to net-zero emissions

# WELL-POSITIONED FOR THE FUTURE OF ENERGY THROUGH DIFFERENTIATED STRENGTHS

## DIFFERENTIATED STRENGTHS

- Customer insight and scale
- Sectoral decarbonisation approach
- Integrated business models
- World-class trading business
- Innovation culture
- Most valuable brand in the industry



## VALUE DRIVERS SHIFTING WITH STRATEGY



Advantaged assets



Advanced products



Resource positions



Market positions



Asset value chain



Customer value chain and customer integrated offerings



Fewer, larger projects



More small and medium-size projects



Long-term positions



Dynamic positions and capital recycling

**Capital allocation driving economic returns through innovative business models**



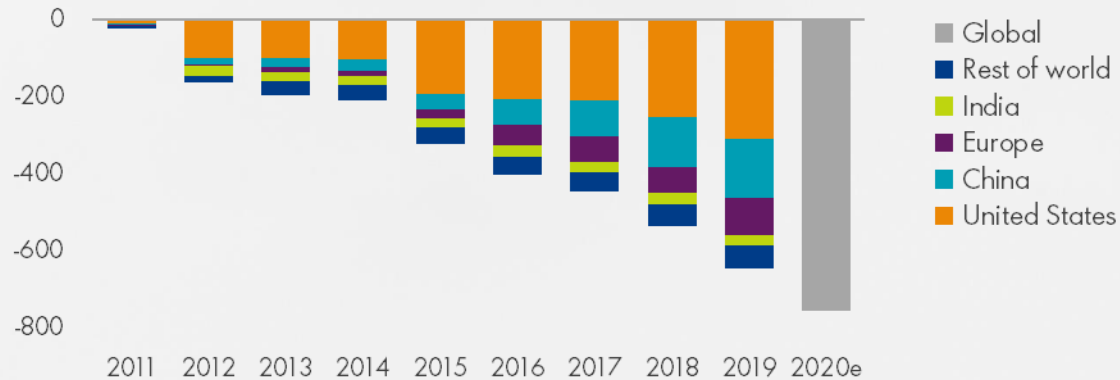
# GAS CONTINUES TO PROVIDE MORE AND CLEANER ENERGY

## Reduce CO<sub>2</sub> and improve air quality

- Natural gas emits between 45% and 55% less GHG than coal when used to generate electricity and less than one-tenth of the air pollutants
- More than 750 million tonnes of CO<sub>2</sub> savings as a result of coal-to-gas switching over the last decade
- In 2020, for the first time on record, the number of coal-fired power stations decreased

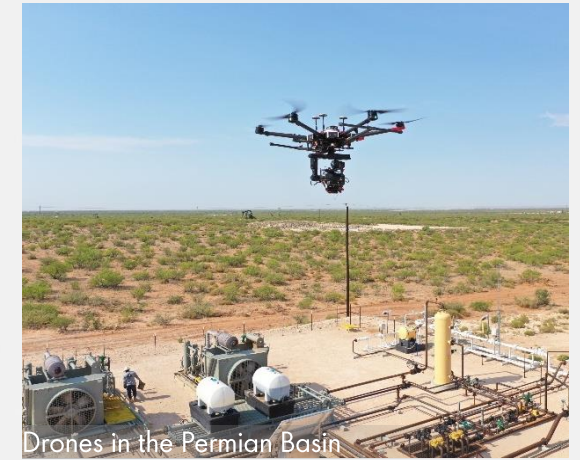
## CO<sub>2</sub> savings from coal-to-gas switching

MT, 2010=0



## Reduce methane emissions

- Lead a coalition of companies and civil society to continuously reduce methane emissions in the natural gas supply chain
- Co-developer and founding signatory of OGMP 2.0 – the new gold standard for methane emissions reporting
- Drive improvement in Shell:



- Target to maintain methane emissions intensity below 0.20% by 2025
- Implement programmes to detect, quantify and mitigate methane emissions, including use of drones with specialised cameras and laser detection technology



# PATHWAYS TO NET-ZERO FOR NATURAL GAS



## Help customers offset emissions through carbon-neutral LNG

- Delivered the first 7 carbon-neutral LNG cargoes to customers in Asia
- Enough to power nearly 1 million homes for a year
- Gas sold to commercial and industrial customers and used to make hydrogen for refuelling stations



## Decarbonise transport emissions through renewable natural gas

- Build bio-gas liquefaction plant in Germany by 2023, with capacity to supply thousands of trucks with bioLNG
- Plan to grow European LNG refuelling stations to 50 sites (up from 24) by end of 2021 for bioLNG distribution
- In 2020, signed two agreements in Los Angeles for the supply of R-CNG supported by two RNG investments in the US



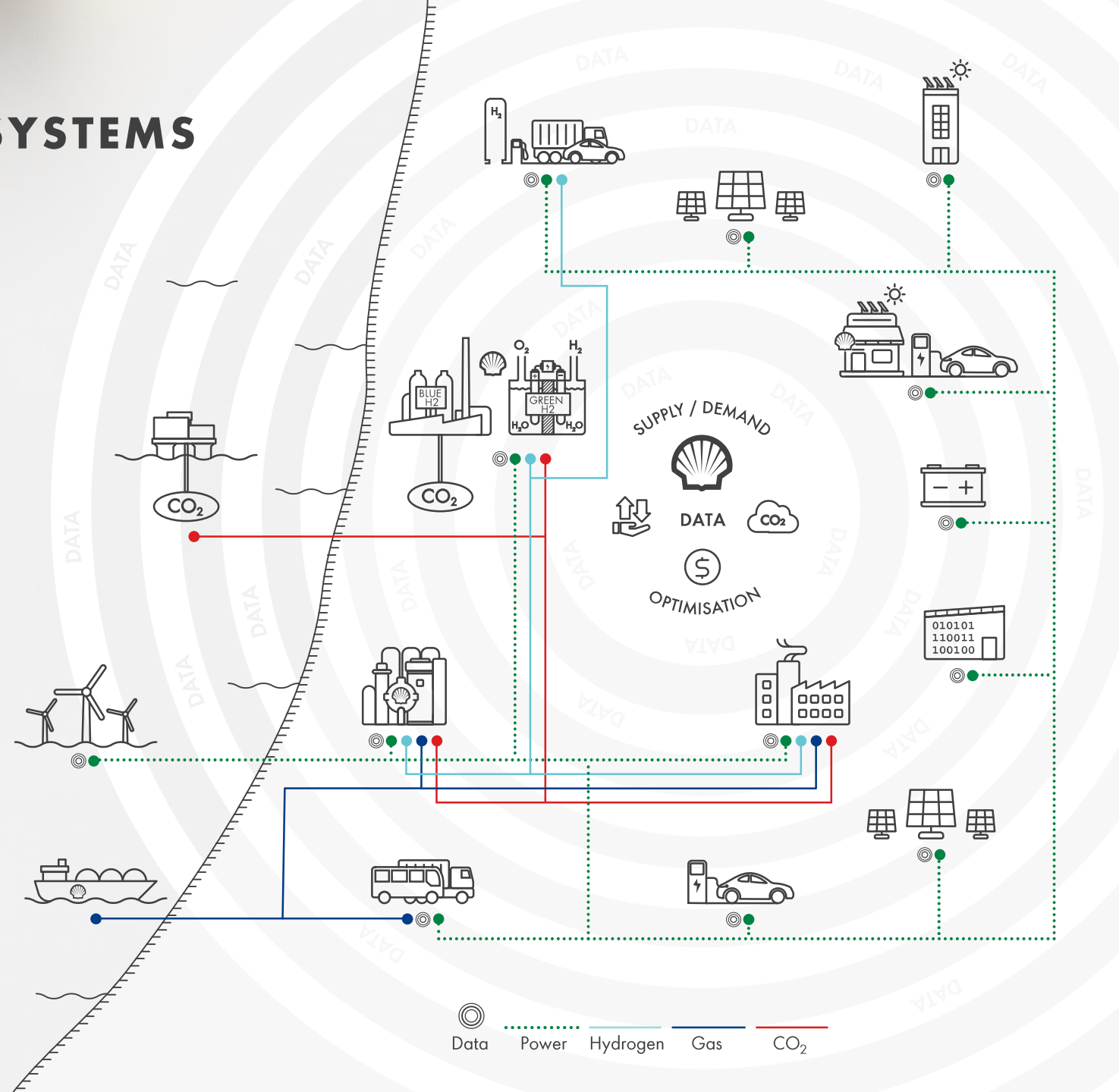
## Reduce Shell and industry emissions through CCS

- Invest in CCS in North West-Europe through a portfolio of projects in the UK, Norway and the Netherlands
- Northern Lights project under construction in Norway. Stores up to 1.5 million tonnes of CO<sub>2</sub> per annum
- Invest in CCS to unlock low-carbon blue hydrogen production for industrial decarbonisation



# INTEGRATED CLEAN ENERGY SYSTEMS DRIVING HIGHER RETURNS

- The energy system increasingly needs **system-wide optimisation** and the **integration of flexible assets** including the optimisation of customers' own assets
- Shell's capabilities to **match supply and demand** for all our customer **use cases and energy types** in an **integrated infrastructure** are essential in any future energy system
- Digital platforms provide **new means to meet customer demand** enabling Shell to tap into these **growing value pools**
- These digitally-enabled solutions **go beyond power** and will integrate into **all areas of customer activities** including EV charging, demand management, virtual power plants, LNG, CCS, hydrogen
- Our **competitive edge** to make these integrated systems carbon- and cost-efficient, as well as **trade, optimise** and convert flows of clean power, net-zero natural gas and clean hydrogen, will generate **higher returns for investors**

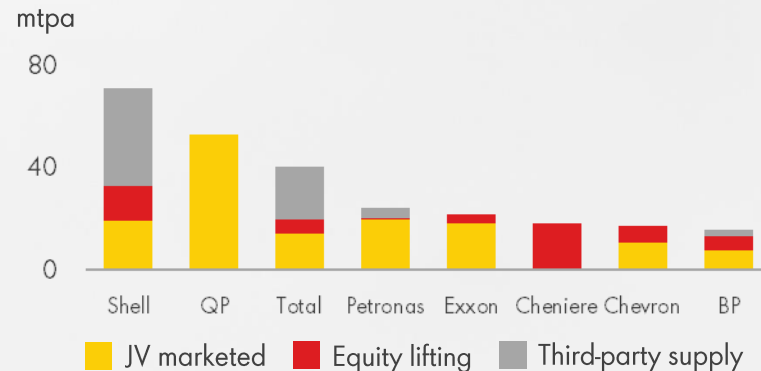


# WORLD LEADER IN LNG: RESILIENT CASH GENERATION INTO THE FUTURE

## Lead the market

- Leverage world-class innovation, flexibility and LNG trading capabilities
- Grow market footprint by creating new markets and embracing new customers
- Build material LNG for transport business by 2030 with >20% share in LNG bunkering sales

## LNG portfolios in 2020

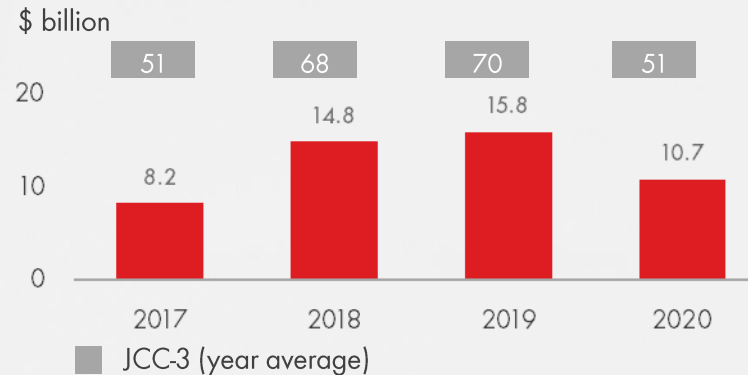


Serve customers in the fastest growing energy markets >

## Run the business

- Unmatched portfolio optionality and resilience; proven in market downturn
- Pearl GTL with record production in 2020; aiming to grow value from GTL products
- Target ~20% opex reduction by 2022

## Cash flow from operations

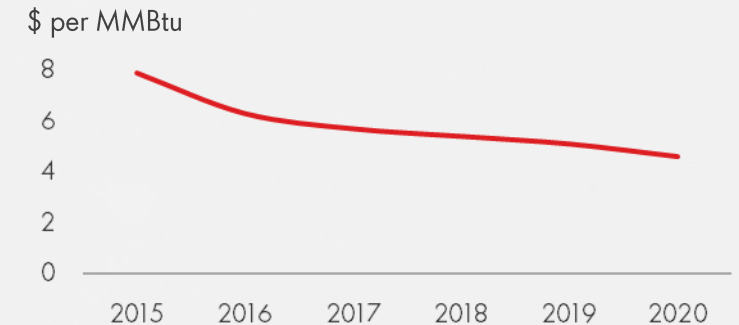


Deliver resilient results >

## Grow the business

- Selective investment in competitive LNG assets, >7 mtpa of new capacity onstream by middle of the decade
- Competitive project funnel with expected average IRR of 14-18% and unit technical cost below \$5/MMBtu
- Greater value, volume and optionality with diversified sources of supply

## Unit technical cost



Further extend our leading position >





# EXTEND OUR LEAD IN A GROWING LNG MARKET



## Leverage world-class trading portfolio

- Supplied 70 mtpa of LNG to customers in 2020. Leading supplier to China
- Diverse portfolio with varying contract duration, flexibility and indexation
- 37 countries supplied from global portfolio with a fleet of 60 LNG carriers



## Create new markets

- Developing 3 mtpa of new LNG markets by 2025
- Providing initial supply for Croatia, Hong Kong and Ghana
- Ambition to create new markets in Philippines, Indonesia, Brazil, Pakistan, Bahamas and other countries



## Deliver LNG for transport

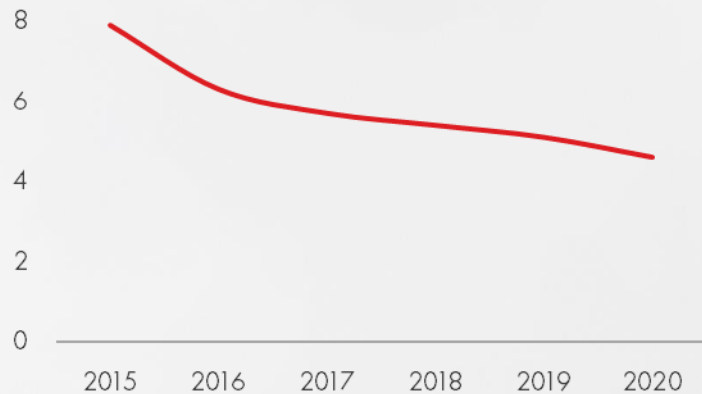
- Supply >20% of growing global LNG bunkering demand
- Largest global LNG bunkering network with 6 operating vessels; >400 ship-to-ship LNG bunkering operations
- Expansion of own-use programme with >60 vessels and barges on order
- Building a retail network for LNG for road transport in Europe, China and India



# GROW OUR UNMATCHED LNG SUPPLY PORTFOLIO

## Unit technical cost

\$ per MMBtu



## Competitive funnel of opportunities

- Selective investment in competitive LNG assets; including backfill and expansion options
- Unit technical cost reduced by around 40% to \$4.8/MMBtu since 2015
- Project funnel with expected average IRR of 14-18%
- Exploration focused on backfill opportunities

## Deliver projects

- More than 7 mtpa of capacity to be added from LNG Canada and Nigeria LNG Train 7
- Both projects on track to deliver first cargo by the middle of the decade

## Diversified supply chain

- Identify most competitive sources of supply to further strengthen and diversify portfolio
- Expand supply portfolio through additional offtake agreements, e.g. with Mozambique LNG, Venture Global



# INTEGRATED ENERGY SOLUTIONS IN QUEENSLAND, AUSTRALIA

1

LNG export & domestic gas sales serve local and global customers ...



**7.8 MT**  
sold globally

**2.5 BCM**  
domestic sales



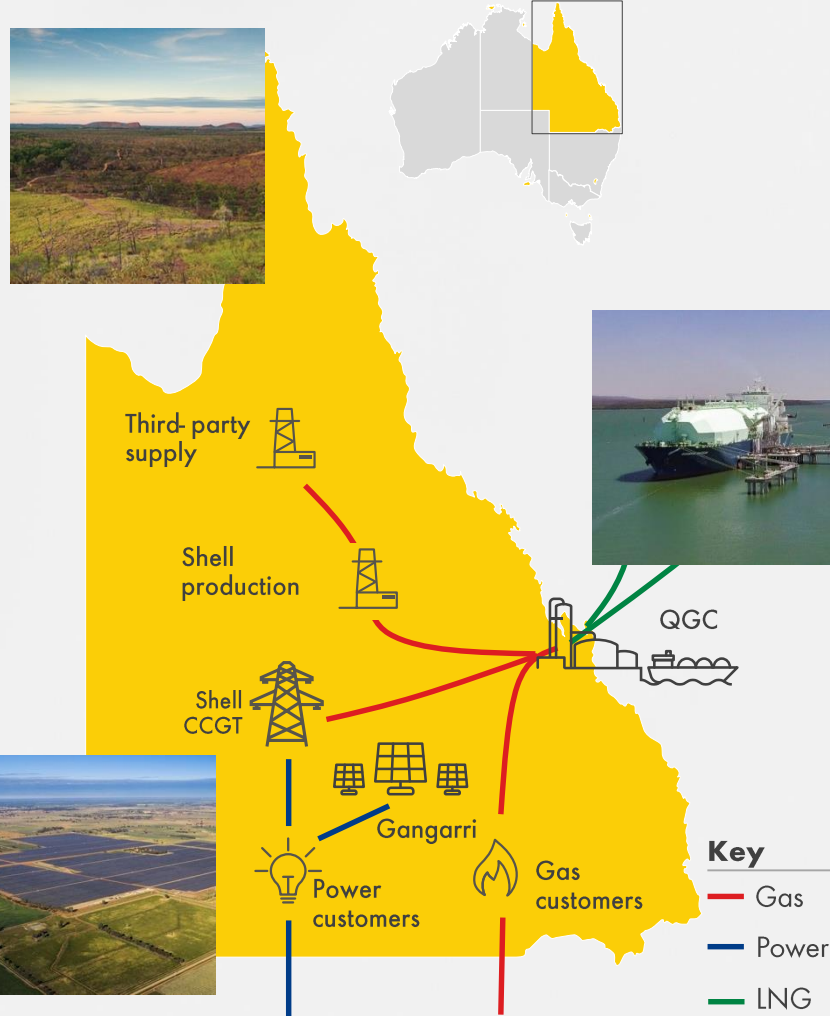
**0.5 BCM**  
supplied to QGC

2

... with power retailing established and a solid customer base ...



**17 TWh**  
annual sales



3

... and renewable energy investments supply core customer demand ...

Gangarri

**120 MW**  
solar farm being built



**Since 2016**  
providing energy storage



**680 MW**  
solar projects developed and sold

4

... and nature-based solutions help offset emissions



**10 million ha**  
in 70 projects



# CREATING AN INTEGRATED GAS & POWER VALUE CHAIN IN INDIA

- Transforming a traditional LNG regas business into a fully owned and integrated Shell value chain
- Supporting India to increase the share of natural gas in its primary energy consumption from 6% towards its aspired target of 15% by 2030
- Contributing to approximately 25% of Gujarat's energy mix, natural gas provides air quality improvements for the state and reduces costs for companies

1 LNG import provides the backbone...



**75 cargoes** ~**20%**  
record delivery in 2020 of India's LNG imports

- Access to national/regional gas grids enabling sales to customers across India

2 ...to serve customers downstream, including those not connected to the gas grid...



**1 BCM** **5 BCM**  
direct sales to customers throughput capacity sold to third-party users

- Truck loading unit commissioned & deliveries commenced, unlocking off-grid gas sales



3 ...supporting customers' decarbonisation journey through solar deployment...



**49%** **>500 MW**  
stake in Cleantech Solar solar systems portfolio

4 ...providing reliable electricity supply to communities...



**100** **>5,000**  
community mini-grids through Husk micro-enterprise customers

- Other Energy Access investments such as d.light and Orb Energy

5 ...and making a positive contribution to society.



**>1,200 ha** **>6 million**  
mangrove plantations saplings planted

# Q & A

Royal Dutch Shell plc



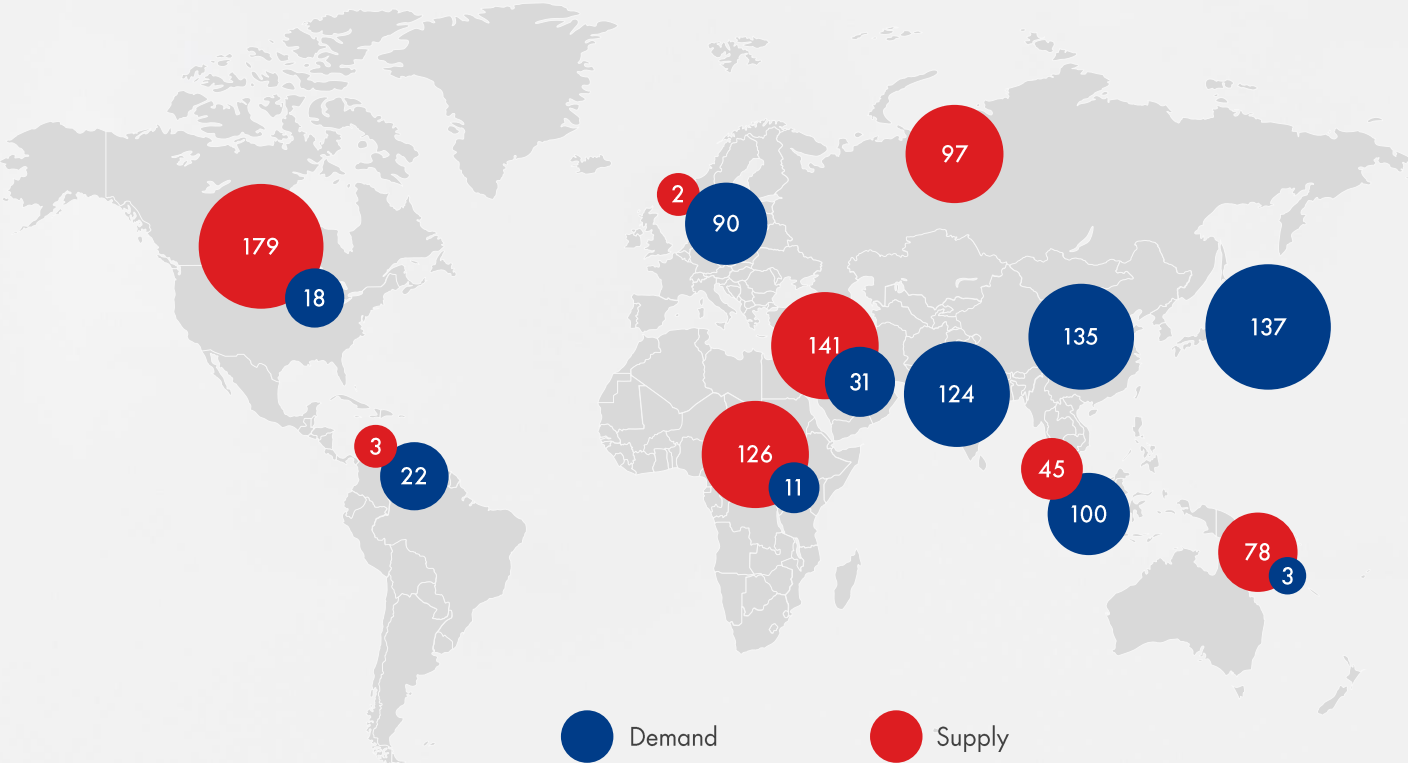
# INTEGRATED GAS

## GLOBAL LNG – MORE MARKETS, GROWING DEMAND

LNG DEMAND EXPECTED TO GROW, UP TO 4% PER YEAR UNTIL 2040

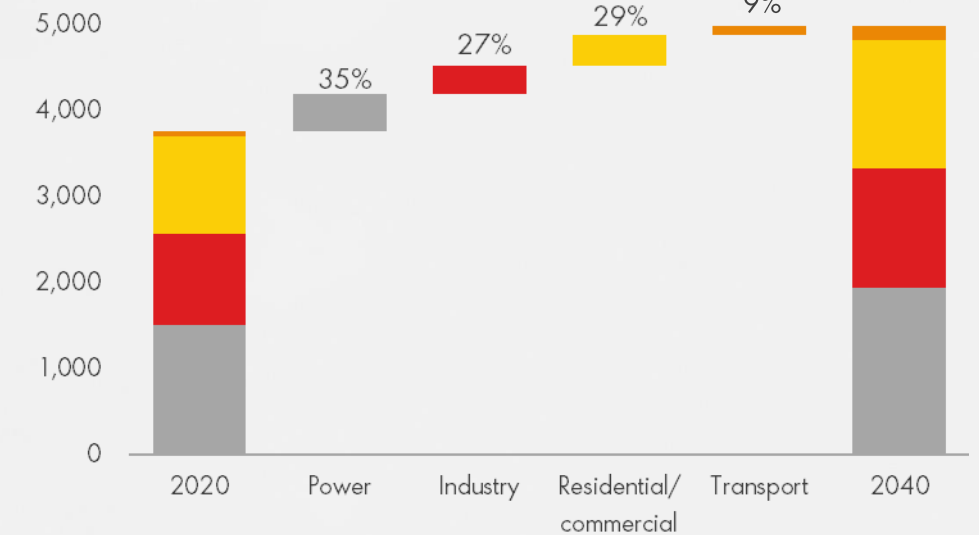
### LNG needed to connect natural gas supply and demand growth

Estimated LNG trade volume in 2040, million tonnes



### Gas demand expected to grow across sectors

Global gas demand growth by sector, BCM



### LNG in transport showing significant potential

**>10 MTPA**

China LNG road transport demand in 2020

**~8 MTPA**

European LNG road transport demand by 2030

**30-50 MTPA**

Global LNG bunker demand by 2040

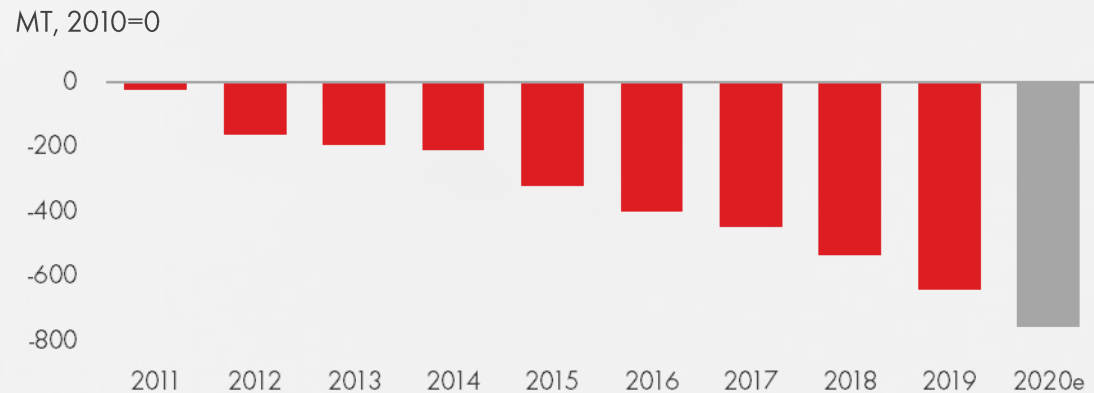


# INTEGRATED GAS LNG DEMAND TO GROW AS GAS PROVIDES MORE AND CLEANER ENERGY

## Reduce CO<sub>2</sub> and improve air quality

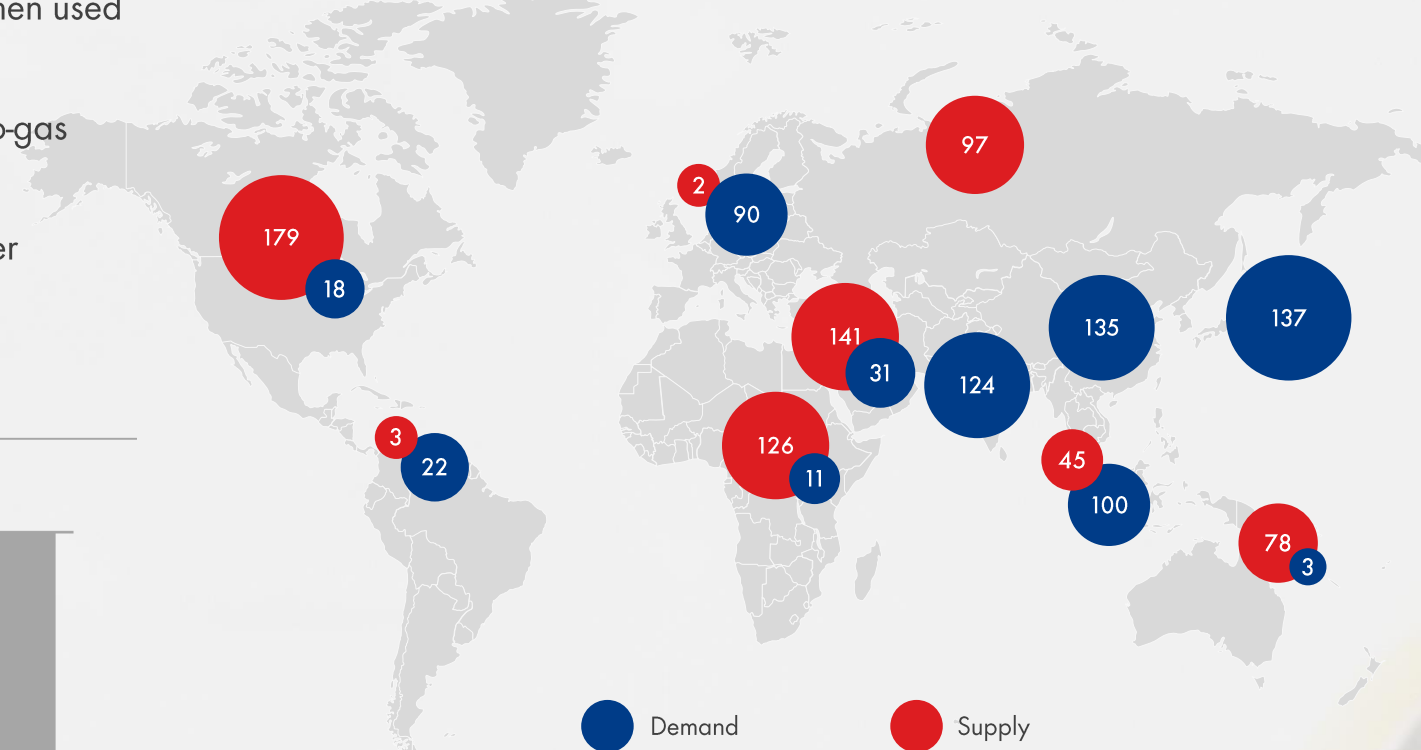
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- More than 750 million tonnes of CO<sub>2</sub> savings as a result of coal-to-gas switching over the last decade
- In 2020, for the first time on record, the number of coal-fired power stations decreased

## CO<sub>2</sub> savings from coal-to-gas switching



## LNG needed to connect natural gas supply and demand growth

Estimated LNG trade volume in 2040, million tonnes



# STRATEGY DAY 2021 DISCLOSURE OVERVIEW (3/3)

## Integrated Gas

- Opex reduction of ~20% by 2022 vs. 2019
- >20% share in LNG bunkering sales by 2030
- >7 mtpa of new LNG capacity onstream by the middle of the decade
- Develop 3 mtpa of new LNG markets by 2025
- Project competitiveness: UTC <\$5/MMBtu

## Chemicals and Products

- 1 mtpa plastic waste processed by 2025
- Reducing traditional fuel production from ~100 to ~45 mtpa by 2030
- Reduce chemicals commodity exposure by ~70% by 2030
- \$1-2 billion annual CFFO by 2030 from new projects, compared with the medium-term cash generation

## Upstream

- ~80% of Cash capex to core positions
- Exploration:
  - >80% of spend to core positions
  - >70% of spend to Deep Water
  - No new frontier exploration entries anticipated after 2025
- Opex reduction of 20-30% by 2025 vs. 2019
- UDC reduction of ~10% by 2025
- UOC reduction of ~20% by 2025
- Project competitiveness: Average break-even price of ~\$30/boe

