REACHING CLIMATE GOALS
WITH NATURAL GAS AND LNG

Through bold steps and technological innovation, natural gas and LNG are working to enable a clean energy future for all. **THIS IS WHAT THE PATH FORWARD LOOKS LIKE, DECADE BY DECADE.**

THE 2020s

PLEDGING TO LIMIT EMISSIONS.

- ExxonMobil plans to **reduce operated upstream emissions by 30%** as well as flaring and methane emissions by **40-50% by 2025.**[1]
- bp **targets 30-35%** reduction in operated GHG emissions on an absolute basis **by 2030.**[2]
- Shell targets **20% reduction** in carbon intensity **by 2030.**

PLEDGING TO ELIMINATE ROUTINE FLARING.

- **All producing CLNG members have pledged to eliminate routine flaring, as defined by the World Bank,[3] by 2030.**[4,5]
- bp aims for **zero routine flaring** in US onshore operations **by 2025.**[6]

IMPROVING OUR ABILITY TO RESPOND TO AND REDUCE EMISSIONS WITH DRONES, INFRARED CAMERAS, WASTE HEAT RECOVERY SYSTEMS (WHR)[7] AND REAL-TIME MONITORING.[8]

- Shell expands drone use to enhance their existing **methane leak detection and repair** program.[9]
- ExxonMobil expands the use of aerial LiDAR™ imaging[10] and SOOFIE[11] fixed continuous **methane detection technologies.**
- bp aims to **install methane measurement** at all existing major oil and gas processing sites globally **by 2023.**[12]

Cheniere's WHR system is estimated to **save over 600,000 metric tons of CO_2 per year.**[13]

As a direct result of its methane leak detection programs, Berkshire Hathaway Energy had a **combined leak rate of only 0.037% in 2020.**[14]

Freeport LNG implements an all-electric motor drive facility, **reducing its liquefaction plant emissions by over 90%.**[15]

INVESTING BILLIONS IN RENEWABLE TECHNOLOGIES AND LOW-CARBON SOLUTIONS.

bp invested **$750 million in 2020**[16] and aims to increase its **annual low-carbon investment** to around **$5 billion per year by 2030.**[17]

Berkshire Hathaway Energy **invested $34 billion in 2020,** with plans to spend **approximately $3 billion more through 2022.**[18]

INCREASING RESEARCH INTO AND BEGINNING TO UTILIZE CARBON CAPTURE AND STORAGE (CCS) TECHNOLOGIES.[19]

The CCS process at NextDecade's Rio Grande LNG facility expects to **capture and permanently store more than 5 million metric tonnes of CO_2 per year.**[20]

CARGO EMISSIONS TAGS AND CARBON NEUTRAL LNG CARGOS HIT THE MARKET.[21]

bp and Sempra LNG sign a contract for the delivery and receipt of the companies' **first carbon offset LNG cargo.**[22]

Cheniere intends to provide customers with **Cargo Emissions Tags** that detail the estimated **GHG emissions associated with each LNG cargo,** from the wellhead to the delivery point.[23]

ESG-BASED CERTIFICATION PROGRAMS FOR NATURAL GAS BEGIN.

Cheniere collaborates with natural gas suppliers on an R&D project to **assess emissions performance, and scale up relevant quantification, monitoring, reporting, and verification (QMRV) methods and technologies.**[24]

NextDecade announces a pilot project to assess **environmental performance across the energy value chain.**[25]

ExxonMobil pursues **certification of natural gas in the Permian Basin** and evaluates potential **expansion to other areas.**[26]

THE 2030s

ONGOING INVESTMENTS IN RENEWABLES AND LOW-CARBON SOLUTIONS REAP REWARDS.

Shell expects to provide enough **renewable electricity for 50 million homes and reduce its carbon intensity by 45%.**[27]

bp aims to grow its net renewable generating capacity from **2.5GW in 2019** to **20GW by 2025** and to around **50GW by 2030.**[28]

CCUS TECH TAKES HOLD AND HELPS REDUCE U.S. EMISSIONS.

ExxonMobil's CCUS Hub in Houston expects to capture and store **100MMT of CO_2 a year by 2040.**[29]

Shell is seeking access to an additional **25 million tonnes/year of CCS capacity by 2035**—equal to 25 CCS facilities.[30]

THE 2040s

EFFICIENCY AND EMISSIONS INTENSITY REDUCTIONS IN OIL AND NATURAL GAS ARE EXPECTED TO SUPPORT A NEARLY 45% DECLINE IN CARBON INTENSITY OF THE GLOBAL ECONOMY.[31]

CREATING HYDROGEN FROM NATURAL GAS HELPS DECARBONIZE ENERGY-INTENSIVE INDUSTRIES.[32]

bp expects **hydrogen** to have more than a **15% share** in total global energy consumption **by 2050.**[33]

REDUCTIONS IN GHG EMISSIONS AND CARBON INTENSITY HELP THE WORLD ACHIEVE A CLEANER FUTURE.

bp pledges to **cut the carbon intensity** of its products by **50% by 2050**—and its scope 1, 2 and 3 emissions to be at **net-zero by 2050 or sooner.**[34]

Shell aims to **reduce its carbon intensity by 100% by 2050.**

DESTINATION: 2050

AMBITION OF NET ZERO EMISSIONS.[35]

CLNG
center for liquefied natural gas

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35. Member company commitments.

    BP: Our ambition is to be a net zero company by 2050 or sooner and to help the world get to net zero. We have set out 10 aims to support this ambition. https://www.bp.com/en/global/corporate/who-we-are/our-ambition/our-aims.html

    ExxonMobil: Partnered with governments, academia, and industry to research and commercialize biofuels, direct air capture, and lower the cost of carbon capture and storage to help support society's ambition of net-zero emissions by 2050. https://corporate.exxonmobil.com/Sustainability/Emissions-and-climate

    Shell set out details of how it will achieve its target to be a net-zero emissions energy business by 2050, in step with society's progress [Shell] "will continue with short-term targets that will drive down carbon emissions as we make progress towards our 2050 target …. This includes a new set of targets to reduce our net carbon intensity: 6-8% by 2023, 20% by 2030, 45% by 2035 and 100% by 2050, using a baseline of 2016."