

EFFIONG OKON





Executive Director, Operations *Seplat Energy PLC*

Mr. Effiong Okon joined Seplat in January 2018 as Operations Director and brings 26 years' experience in upstream and integrated oil and gas operations across Africa, Europe, the Middle East, and Nigeria. He is primarily a Petroleum Reservoir Engineer but combines this with experience across all aspects of the E&P sector including petroleum engineering, exploration, front end development studies, project execution, and production and asset management.

Prior to joining Seplat, Mr. Okon was most recently General Manager Deepwater Production for Shell Nigeria. Previous appointments at Shell also include Deputy Vice President Technical and Manager North Field Wells and Reservoir during the commissioning, start-up and early production phase of mega projects Qatar Shell Pearl GTL and Qatar Gas LNG Trains 7 & 8.

Contact Me

 EOkon@seplatenergy.com

 +234-1-2770400 Ext: 53003

16A Temple Road (Olu Holloway) Ikoyi,
Lagos, Nigeria



www.seplatenergy.com





WHERE GOES THE GAS INVESTMENTS?

Perspective of Gas Projects and Investments in Nigeria and the Future

EXECUTIVE/OPERATIONS DIRECTOR, EFFIONG OKON

May 2022

reliable energy,
limitless potential



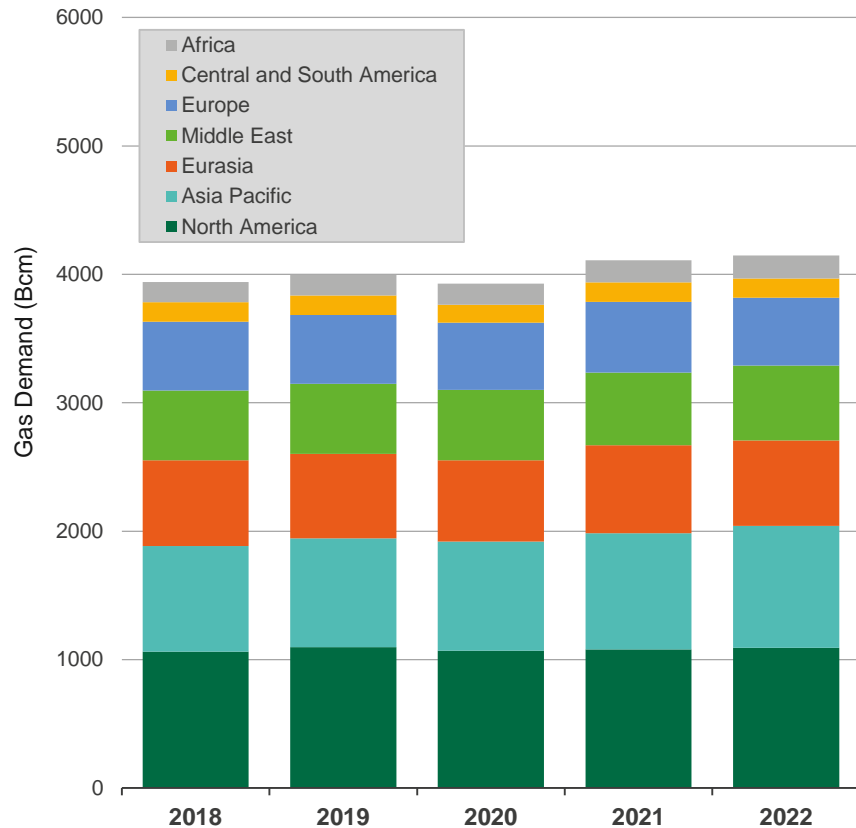
GLOBAL OVERVIEW

reliable energy, limitless potential

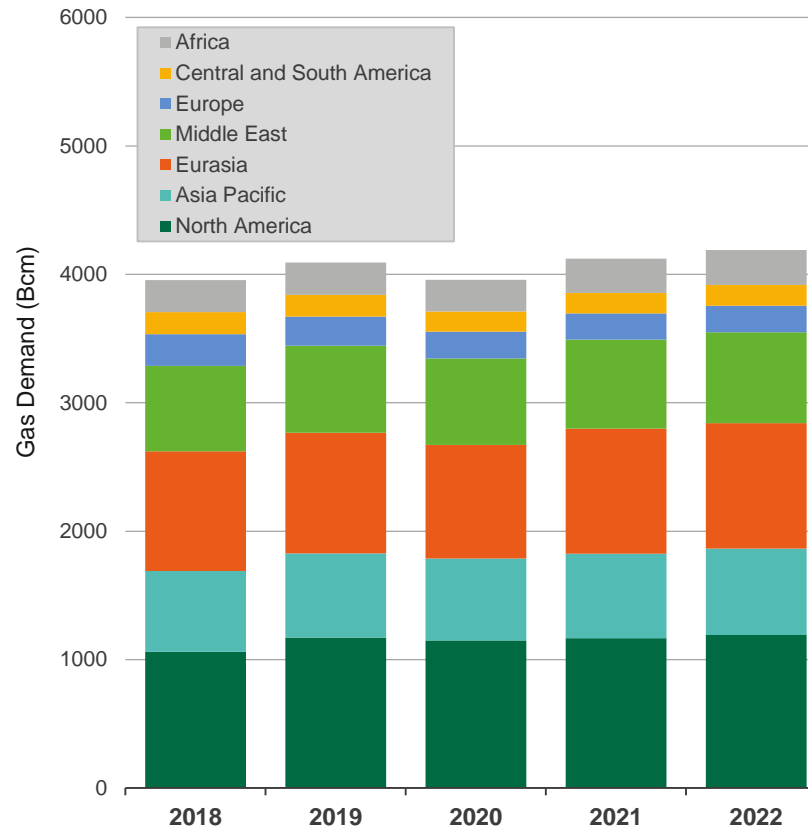
GAS HIGHLIGHTS 2021

After a strong first-half recovery, natural gas demand growth suffered from record-high prices

WORLD NATURAL GAS DEMAND (BCM)



WORLD NATURAL GAS SUPPLY (BCM)



Gas prices recovered in all key regions in 2021 reaching 10-year highs in North America (Henry Hub - \$4.8/Mbtu) and all-time highs in Asia (LNG spot price - \$35/Mbtu) and Europe (TTF - \$31.5/Mbtu) in Q4 because of tight market fundamentals

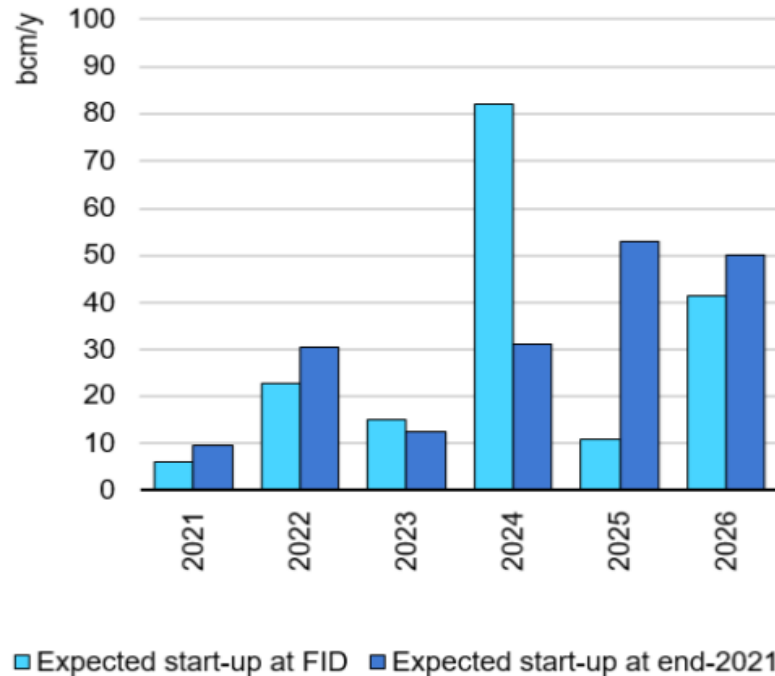
Gas demand growth in 2021 was stronger than expected due to several weather-related factors while gas supply faced several constraints amid higher planned and unplanned outages along the entire gas value chain

Wood Mackenzie predicts that global gas demand will remain resilient in the short term, but the role of gas in the energy transition will come under pressure as prices remain high

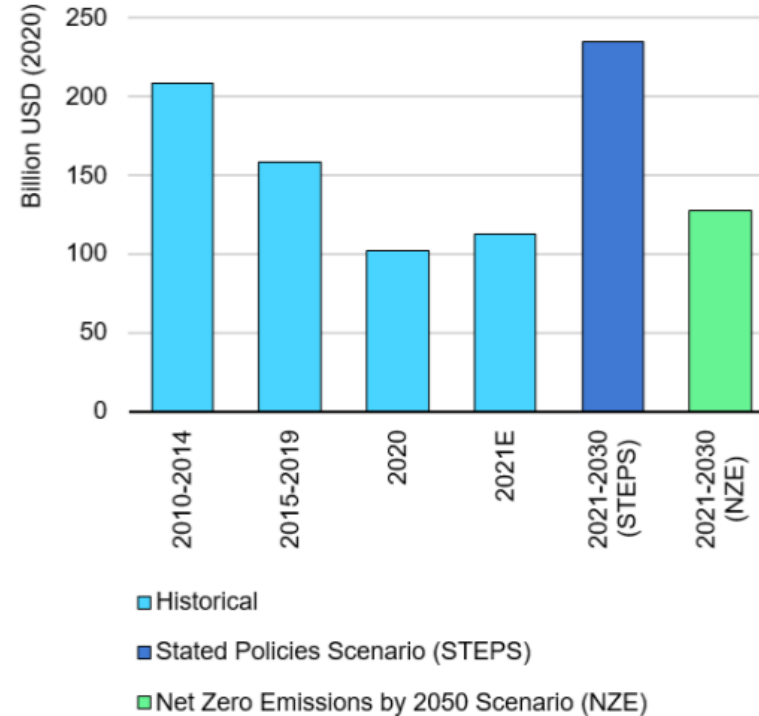
GAS HIGHLIGHTS 2021

Global gas supply has been put under pressure by outages, delays and slow pace of new FIDs

EXPECTED START-UP YEAR OF NEW LNG CAPACITY



ANNUAL UPSTREAM INVESTMENT IN GAS SUPPLY



Total LNG volume lost to planned and unplanned outages (due to maintenance schedules disruption caused by COVID-19 in 2020) in 2021 was 53Bcm due to upstream issues particularly in Nigeria, Trinidad & Tobago and Malaysia

Upstream supply fell short of expectations in key producing regions despite record high-prices and strong domestic demand in these regions

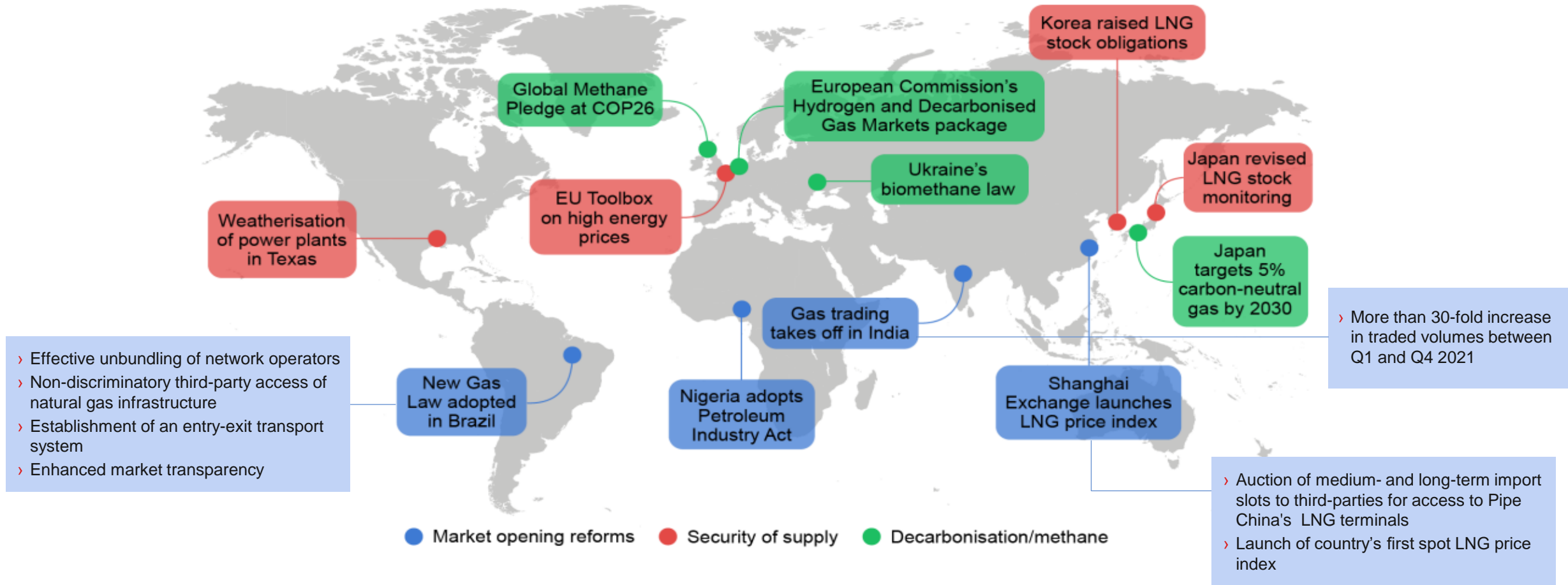
Project delays could further limit future supply availability. Of the 190Bcm nameplate liquefaction capacity under construction in 2021, 45% was delayed (by an average of 14 months)

Upstream investment in gas has been on a decline reaching its lowest point in 2020 with a modest increase expected for 2021 due to energy transition and investor pressure for capital discipline

Source: IEA Gas Market Report, 2022

GAS HIGHLIGHTS 2021

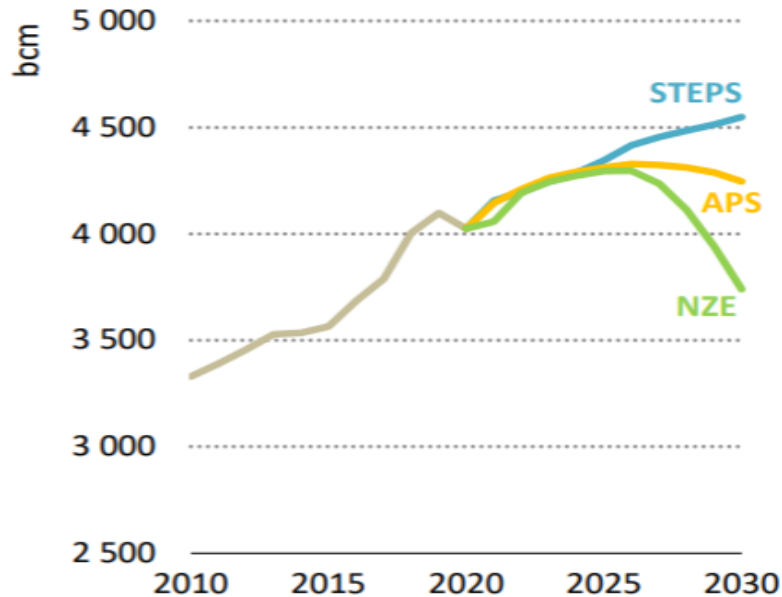
Gas Market Reforms and Policy Initiatives



Gas market reforms in 2021 addressing market opening and competition, security of gas supply and sustainability of gas operations

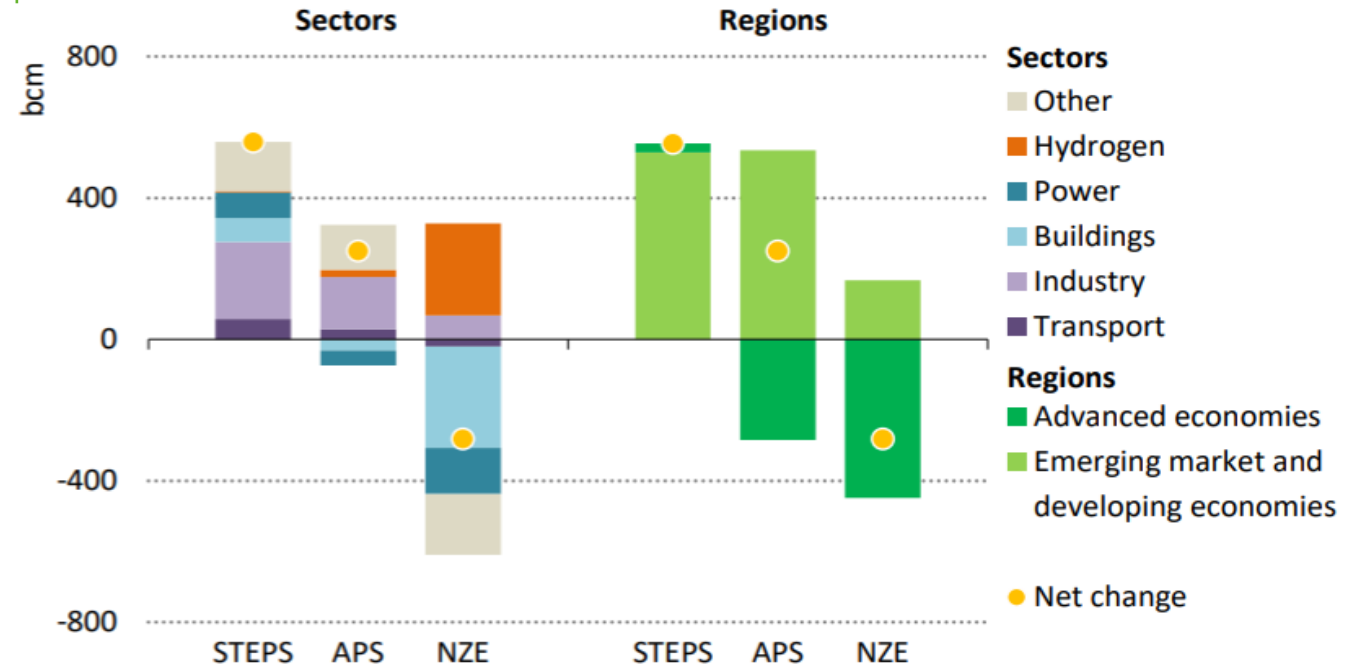
GLOBAL GAS DEMAND OUTLOOK

NATURAL GAS USE ACROSS SCENARIOS



STEPS: Stated Policies Scenario
 APS: Announced Pledges Scenario
 NZE: Net Zero Emissions by 2050 Scenario

NATURAL GAS TRENDS BETWEEN 2020 AND 2030



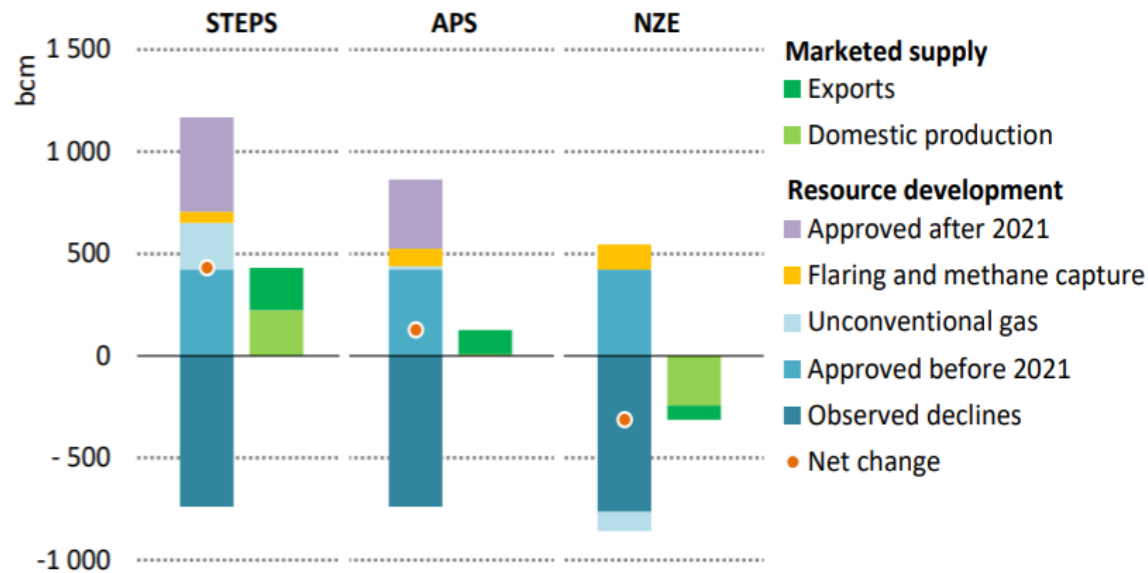
- Natural gas use increases in each scenario to 2025 with sharp divergences thereafter. Decline in gas demand in the NZE scenario is partially offset by growth in demand for low emission gases such as low carbon hydrogen produced from natural gas with CCUS.
- By region, nearly all the increase in natural gas demand is driven by emerging market and developing countries as it is used to replace more polluting fuels
- Industry in emerging and developing economies is the major driver of gas demand growth related to fuel switching in STEPS and APS. In NZE it is driven by steel and cement production. In 2030, heavy industry facilities using natural gas start to be equipped with CCUS

Source: IEA World Energy Outlook, 2021

GLOBAL GAS SUPPLY OUTLOOK

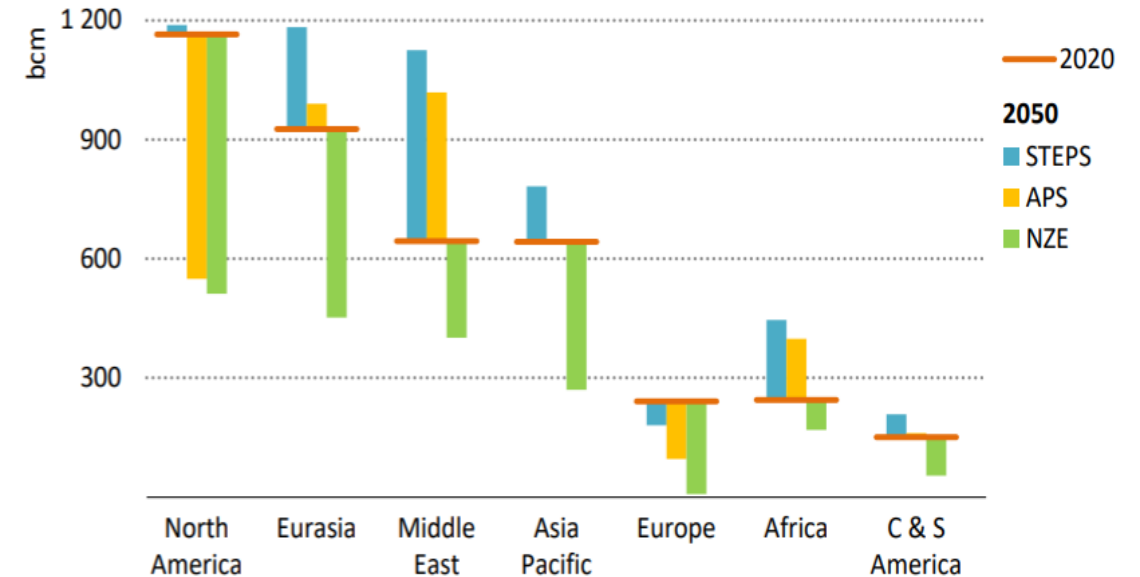
In STEPS, new gas fields are required; in APS, this need diminishes; in NZE, there is no need for new upstream development

UPSTREAM DEVELOPMENT & MARKETED GAS SUPPLY (2021-2030)



STEPS: Stated Policies Scenario
 APS: Announced Pledges Scenario
 NZE: Net Zero Emissions by 2050 Scenario

NATURAL GAS TRENDS BETWEEN 2020 AND 2050



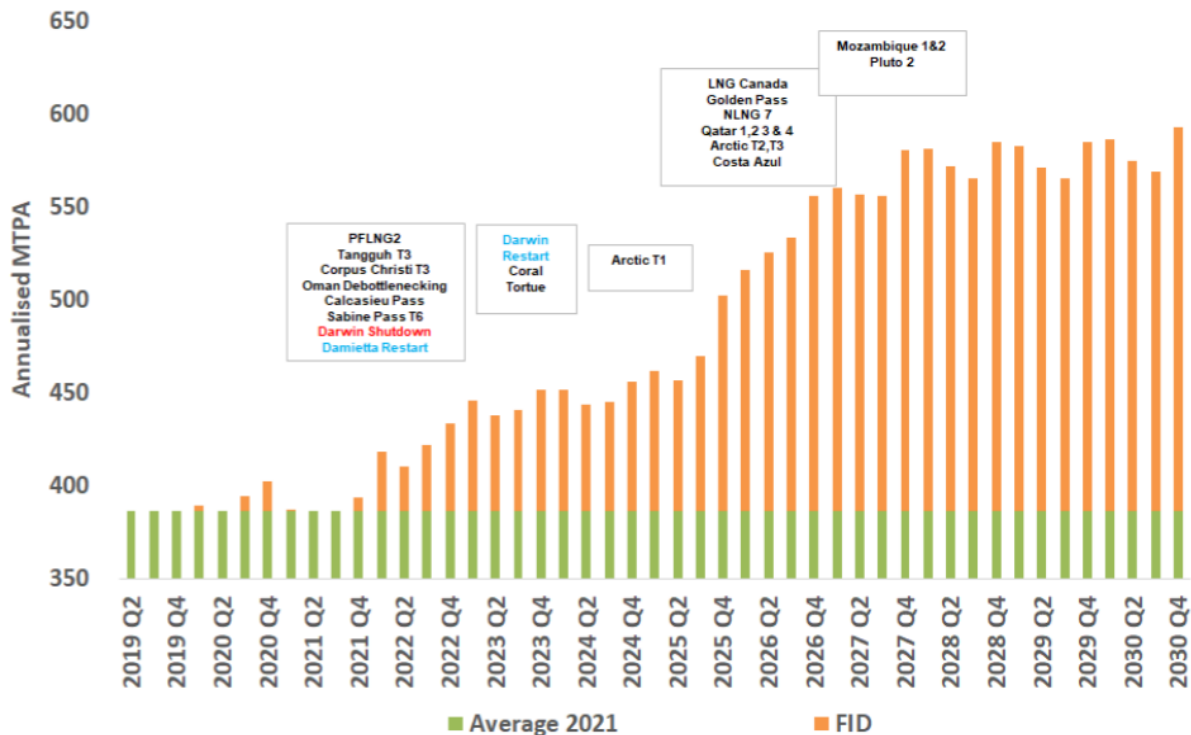
- Existing sources of conventional gas production decline by around 740Bcm in STEPS with projects that have already been approved adding ~420Bcm of production in 2030. Remaining production increase comes from new investment in conventional and unconventional projects
- In APS, countries with net zero targets peak in mid 2020s while those with no targets have a similar outlook to the STEPS. In NZE, no new gas fields are developed and LNG exports peak in mid 2020s and fall to 2020 levels by 2030. Here LNG projects with breakeven prices greater than \$5/Mmbtu are at risk

Source: IEA World Energy Outlook, 2021

2022 PROJECT FID OUTLOOK

Constraint on LNG supply was a key factor in rising prices in 2021 which has raised prospects of more FIDs for new LNG projects

LNG EXPORT CAPACITY GROWTH TO (2022 - 2027)



The total additional capacity till 2027 for the FID projects ~150Mtpa, with potential projects adding ~130Mtpa

List of FID Projects between 2022 and 2027 (Nameplate Capacity)

- **2022:** Sabine Pass T6 (4.5); Calcasieu Pass Phase 1 (10); Tangguh T3 (3.8)
- **2023:** Coral FLNG (3.4), Tortue FLNG (2.5)
- **2025:** Arctic LNG 2 T2 (6.7), Baltic LNG (13), LNG Canada (14), Golden Pass (18.1), Costa Azul (3.3), Qatar Additional T1/T2 (16)
- **2026:** Qatar Additional T3/T4 (16), NLNG T7 plus debottlenecking (8), Arctic LNG T3 (6.7)
- **2027:** Mozambique LNG T1/T2 (12.9), Pluto T2 (4.7)

List of Potential Projects that could take FID

- Tellurian's Driftwood Phase 1 (11): Contracts in place for much of the capacity
- Venture Global's Plaquemines (20): Contracts in place for some of the capacity, Phase 1 of 10Mtpa possible
- Next Decade's Rio Grande (27): Delayed decision till H2 2022 but initial 9Mtpa possible
- Texas LNG (2): Some contracts in place
- Woodfibre LNG (2.1): Deferred but has contracts
- Rovuma LNG (15.2): FID expected in 2020 but delayed due to COVID-19
- Papua LNG (5.3): FID probable in 2023
- Qatar Additional T5/T6 (16): contingent on success of first 4 trains of the expansion
- Russia projects could include another Novatek project: Arctic LNG 1 (20); an expansion of Sakhalin (5.4) by Gazprom plus the possibility of the Rosneft led Sakhalin project (6.2)

NIGERIA

THE DECADE OF GAS



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ENERGY TRANSITION IN NIGERIA

Net-zero by 2060, gas as the transition fuel

Nigeria has the highest portion of unelectrified people in the world - ~90 million individuals do not have access to electricity

In Nigeria's energy transition pathway, there is need to provide universal access to electricity and clean cooking devices

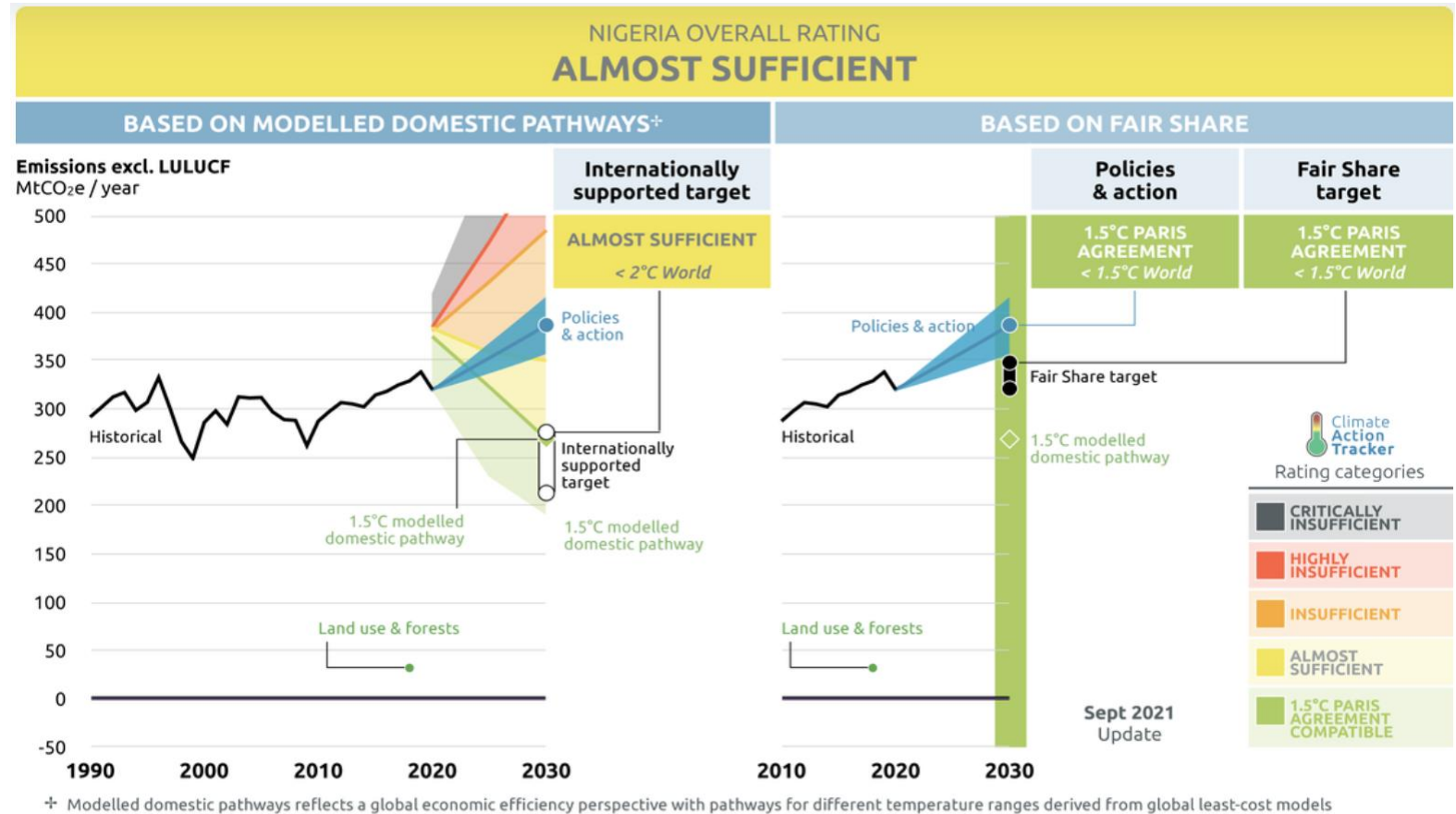
Despite the global debate on the acceptability of gas as a lower-carbon fuel for energy transition, for developing countries like Nigeria, gas is the bridge to sustainability.

At COP 26 climate meeting, Nigeria made a commitment for net-zero carbon emissions by 2060 contingent on the use of gas till at least 2040

Additionally, the newly passed PIA promotes new investment in gas development and distribution to drive economic growth and electrification

Climate Action tracker shows that based on Nigeria's contribution to carbon emissions and its current policies & actions, it is 1.5°C Paris Agreement compliant

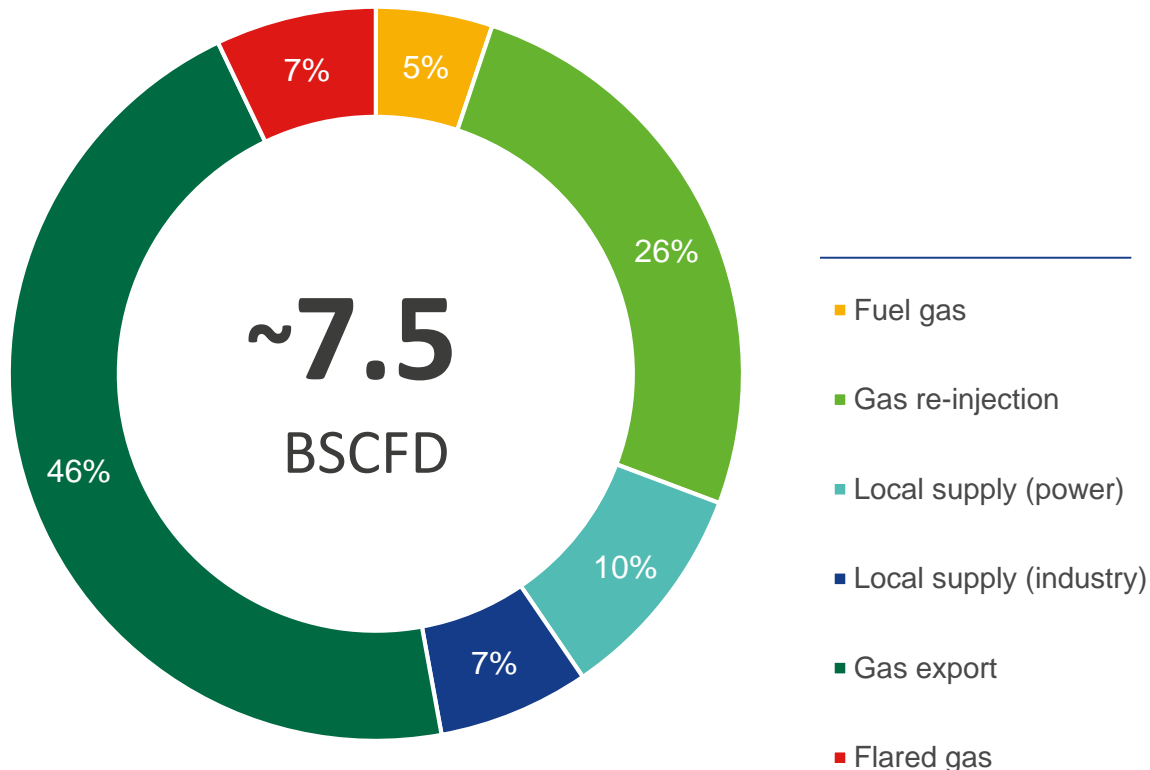
NIGERIA'S RATING ON CLIMATE ACTION TARGETS



GAS IN NIGERIA

Nigeria's Gas Market Set For Massive Expansion

GAS UTILIZATION IN NIGERIA



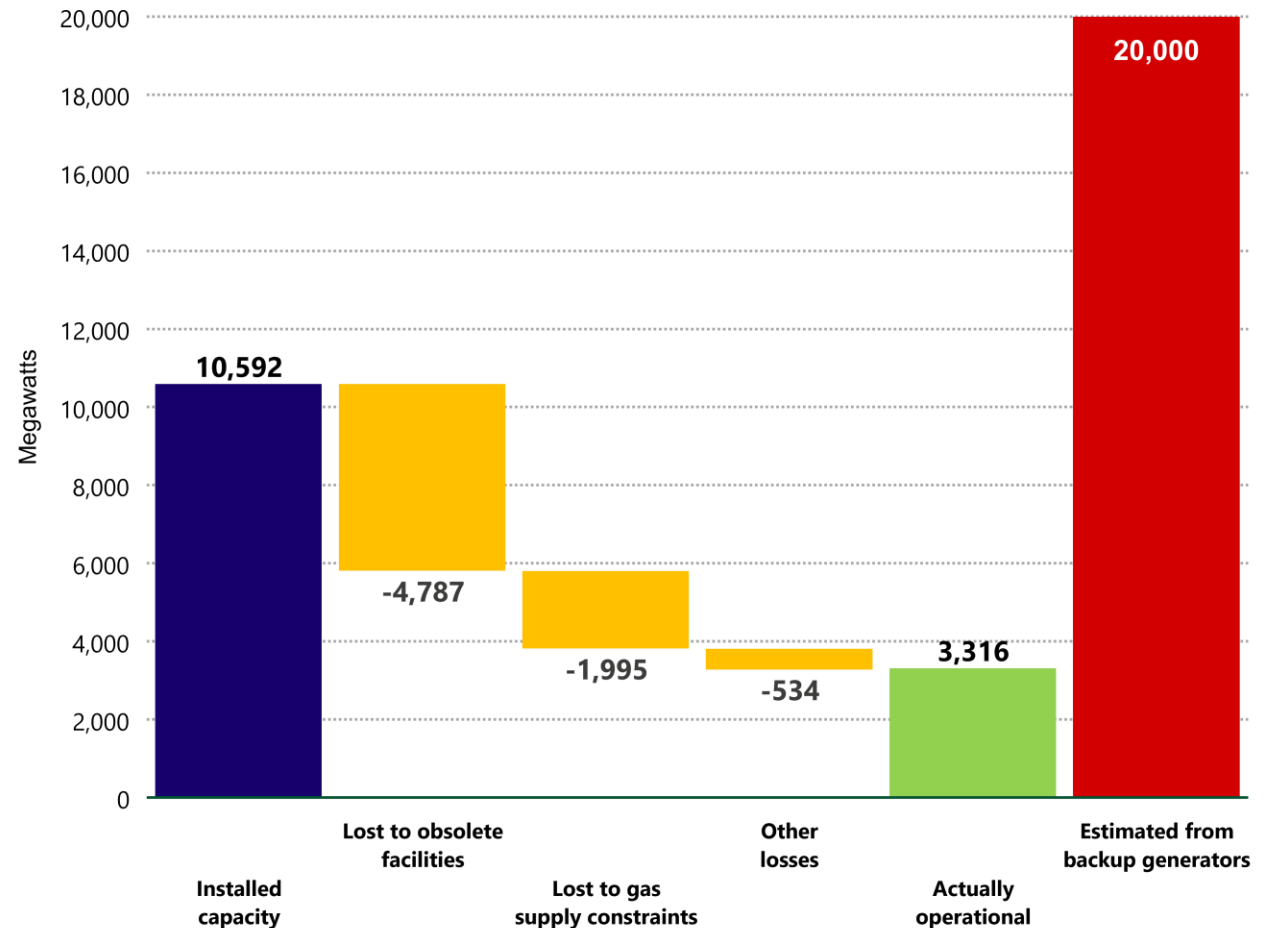
- › Nigeria has huge resources of natural gas, estimated at 203.2Tcf, about 3% of global gas reserves which is the largest in Africa
- › But Nigeria's gas industry is relatively underdeveloped
- › Nigeria flares almost as much gas as it uses for electricity generation, but this gas can be captured and put to economic use under the Flares Out initiative
- › The 2017 National Gas Policy, which replaced the 2008 Gas Master Plan, set out to transition Nigeria from being a crude oil export-based economy to becoming an attractive gas-based industrial economy
- › Government policy is also focused on addressing supply of domestic gas and extending access to electricity (to reach 90% of population by 2030)
- › Nexant forecasts Nigeria's gas demand to grow by c. 20Bcm by 2035, with most growth in the power sector
- › Population forecast to grow to 450million by 2050
- › PwC estimates that harnessing Nigeria's proven gas reserves can stimulate a Gross Value Added of \$18.3billion annually to the domestic economy and support 6.5million full time equivalent jobs annually

GAS IN NIGERIA

The Power Sector Challenge: ~ 75% of power generated is lost before distribution to consumers

- › Population is over 200million and growing, but less than 60% have access to electricity and per-capita consumption is very low at <u>150kwh/year</u>
- › Nigeria has less than 11GW generating capacity on grid and much of this remains unused owing to inefficiencies and gas supply constraints
- › Distribution is not well developed across the country and suffers poor maintenance, with frequent blackouts
- › The result is Nigeria’s excessive overreliance on small-scale diesel and petrol generators
- › Generators are expensive to buy and run and responsible for particulate and GHG pollution
- › Nigeria also uses large amounts of biomass for cooking, which could be replaced by LPG
- › As GDP increases, demand will increase for air conditioning, which requires significantly more power than heating in cooler countries

OFF-GRID GENERATION DOMINATES AND DAMAGES



Source: Nexant; Seplat analysis

NIGERIA OUTLOOK

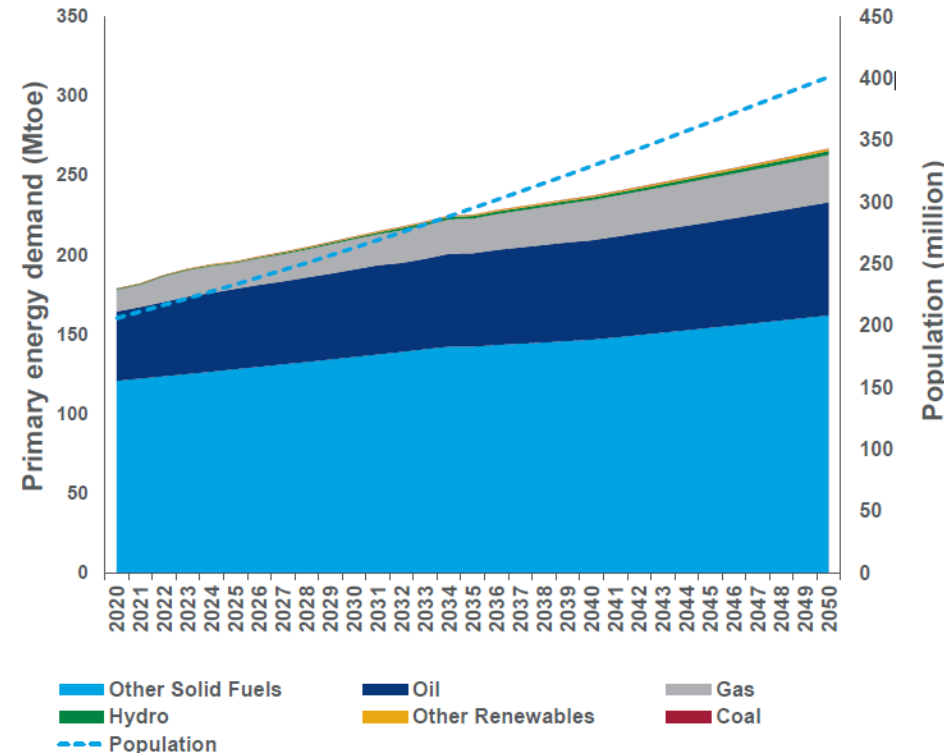
A land of opportunity with a strong potential for growth



2021

| | |
|---------------------------|------------------|
| Population | 206m |
| GDP | \$468bn |
| Total Energy Demand | 182Mtoe |
| Energy Use Per Capita | 0.88toe |
| Access to Energy | 57% |
| Electricity Demand | 121Twh |
| Total Generating Capacity | 25.6Gw |
| GAS/SOLAR ON-GRID | 4.9GW/ 0.06GW |
| GAS/SOLAR OFF-GRID | 0.2GW/ 0.2GW |

Nigeria primary energy demand and population



2040

| | |
|----------------------------|------------------|
| Population | 329m |
| GDP | \$973bn |
| Total Energy Demand* | 267Mtoe |
| Energy Use Per Capita | 0.81toe |
| Access to Energy | 85% |
| Electricity Demand | 240TWh |
| Total Generating Capacity* | 35.2GW |
| GAS/SOLAR ON-GRID | 9.5GW/ 7.9GW |
| GAS/SOLAR OFF-GRID | 4.1GW/ 26.1GW |

*Total Energy Demand – 2050
*Total Generating Capacity: Existing gas grid and off-grid diesel

GAS DEVELOPMENT PROJECTS

NLNG TRAIN 7

FID: 2019
 First LNG: 2025
 Capacity: 8Mpta
 Estimated Cost: c.\$10billion

ANOH

FID: 2019
 First Gas: 2023
 Capacity: 600MMscfd – 3.4Bscfd
 Estimated Cost: c.\$650million

DANGOTE FERTILIZER

FID: 2011
 OSD: 2021
 Capacity: 4.5Mpta
 Estimated Cost: \$2billion

BRASS FERTILIZER

FID: 2021
 Expected OSD: 2024
 Capacity: 1.3Mpta (Urea);
 1.75Mpta (Methanol)
 Estimated Cost: \$3billion

OB3 PIPELINE

FID: 2013
 Expected OSD: 2022
 Length/Capacity: 127km/2.0Bcfd
 Estimated Cost: c.\$700million

AKK PIPELINE

FID: 2017
 Expected OSD: 2023
 Length/Capacity: 618km/3.5Bcfd
 Estimated Cost: c. \$2.8billion

ELPS EXPANSION

FID: TBD
 Expected OSD: TBD
 Capacity: 1.1Bcfd
 Estimated Cost: TBD

Midstream projects will account for around 23% of all oil and gas projects in Nigeria by 2025. Gas processing projects account for around 39% of all upcoming midstream projects

SEPLAT ENERGY

BUILDING A SUSTAINABLE BUSINESS AND DELIVERING TRANSITION

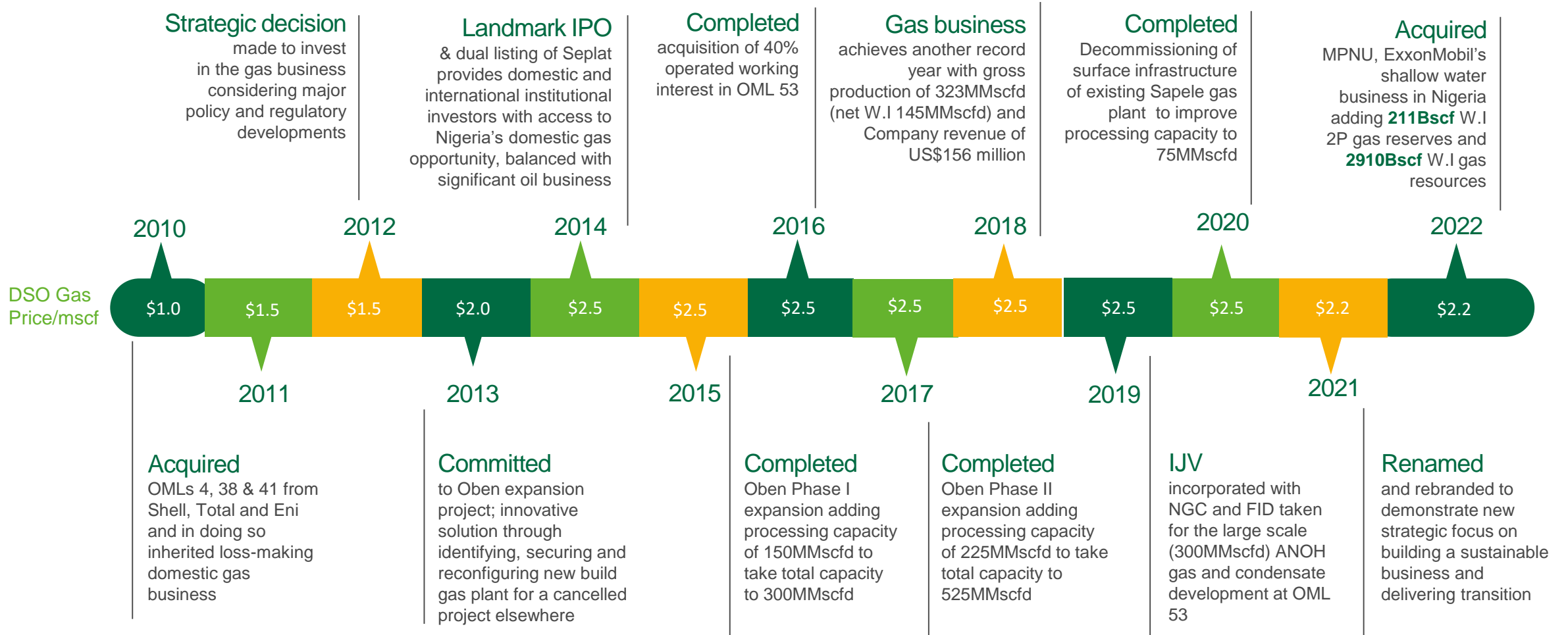


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EVOLUTION OF SEPLAT GAS BUSINESS



Rapid transformation and growth through bold investment and early mover advantage



Source: 2021 Seplat Audited Results, 2022

BENEFITS OF GAS IN SEPLAT ENERGY PORTFOLIO



Gas provides visibility, higher profitability and hedging against oil

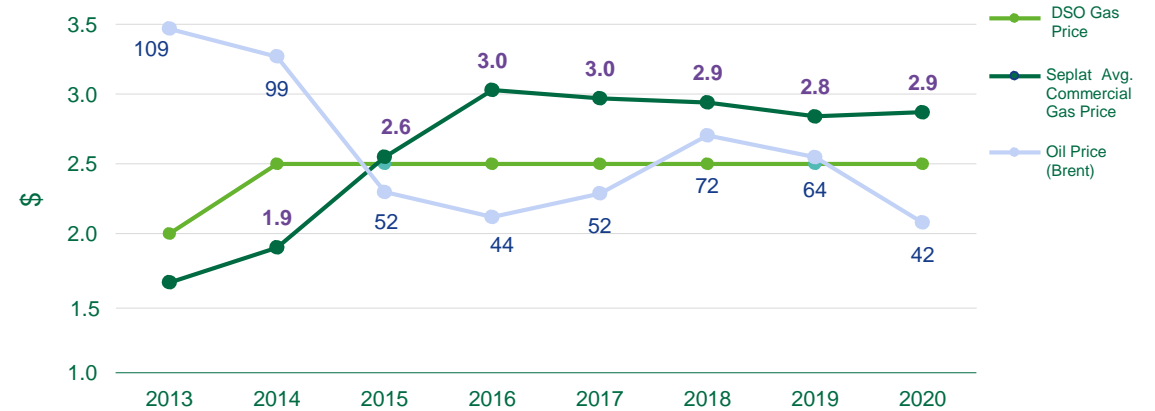
BUILDING MARKET STRENGTH

- Increase utilisation of Oben gas processing plant
- ANOH gas processing plant will add 300mmscfd gross new processing capacity from H1 2023, raising total gross capacity to 765MMscfd
- OB3 pipeline will connect Oben and ANOH to Abuja and Lagos when completed later this year

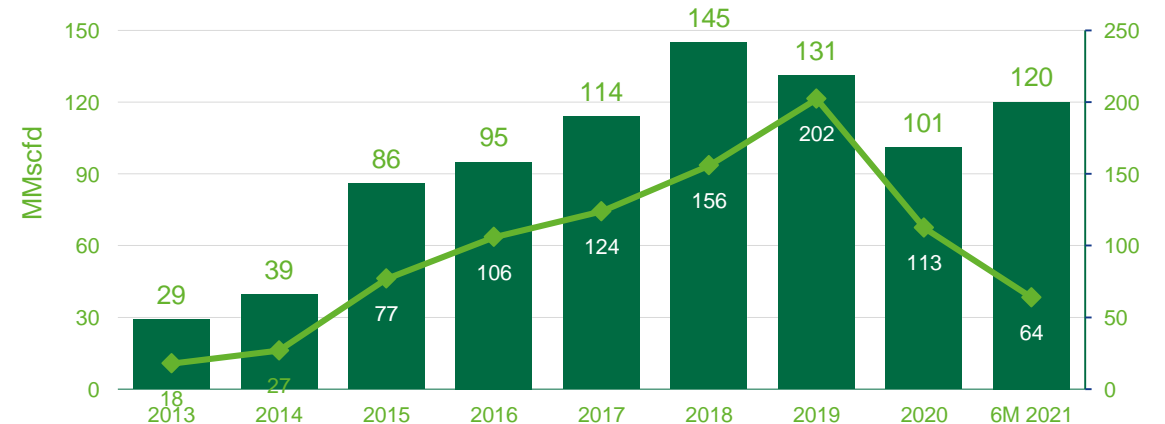
ENHANCING CASH FLOWS AND VISIBILITY

- The gas business provides revenue and cash flow stability, acting as a hedge against fluctuation in oil prices
- Long-term offtake contracts improve earnings visibility
- More secure transport than oil, meaning fewer losses
- Ability to sell above DSO price once DSO commitments have been met
- Diversified regional customer base helps to mitigate risks associated with the Nigerian domestic gas market

GAS PROVIDES A NATURAL HEDGE AGAINST OIL PRICE VOLATILITY (\$)



GAS PERFORMANCE (MMSCFD) AND REVENUES (\$)



Source: 2021 Seplat Audited Results, 2022

DELIVERING ANOH GAS PROCESSING PLANT



Delays to third-party spur line likely to delay first gas to H1 2023

GAS PLANT DELIVERY PROGRESS

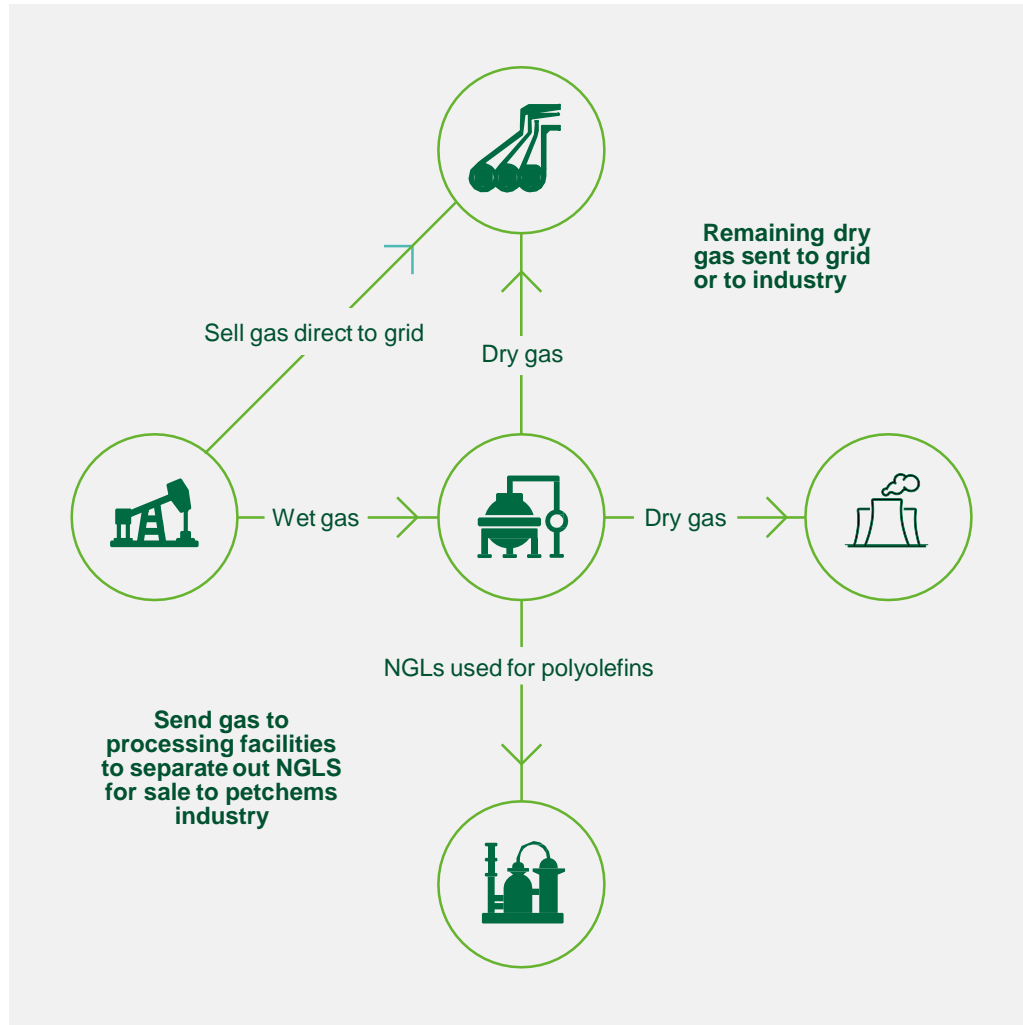
- All equipment fabricated for the project now in Nigeria with over 90% delivered to the project site
- All static process equipment foundations and most rotating equipment foundations completed.
 - Overall completion for foundations at circa 90%
- Installation phase underway.
 - Installation of pipe racks, inlet manifolds, compressors, gas turbine generators, E-House in progress
- Overall project completion at circa 84%.
- Mechanical completion expected in H2 2022
- Delays to third-party infrastructure
 - OB3 pipeline drilling issues at river crossing, but not expected to delay overall completion
 - Delays to production of pipes for 23km spur line Q4 22 / Q1 23 completion expected

COMMERCIAL & FUNDING

- Completed funding with \$260million loan (plus accordion) in February 2021
- Condensate offtake agreement with Vitol signed April 2021
- LPG Offtake Agreement with local offtakers signed in Q4 2021

SCALABLE OPPORTUNITY IN DOMESTIC GAS

Government sees gas as the transition fuel and plans to improve the market



OPPORTUNITY OVERVIEW

1. Capitalise on infrastructure capacity growth and secure additional domestic gas market share
2. Partner with industrial customers and sell gas for use in industry as part of long term supply contracts

POLICY SUPPORT

- 'Decade of Gas' sends a clear signal to industry that the government sees the gas market as critical to Nigeria's future
- The Nigeria Gas Flare Commercialization Programme has been enacted to drive additional sales of gas to grid
- Gas provisions in the PIB will promote infrastructure expansion

TECHNICAL FEASIBILITY

- Infrastructure build-out can open up new demand centres

COMPETITIVE EDGE

- Through its involvement with ANOH and its track record of meeting its DSO, Seplat Energy has a strong reputation as a domestic gas supplier and has established partnerships with NGC

SEPLAT FOCUS ON NEW MARKETS

New gas markets provide significant additional future revenue potential

GAS TO POWER

- Industrial parks, large manufacturing plants, universities, hospitals etc
- 2017 Directive on Eligible Customers allows power generators to supply directly to customers or groups of customers with loads of at least 2 MW
- Wood Mackenzie estimates that captive gas generation capacity can grow to over 4 GW by 2040
- Gas supports development of industry in Free Trade Zones
- Possible entry strategies:
 - Build / acquire pipelines
 - Build / acquire power generation capability



GAS PRODUCTS

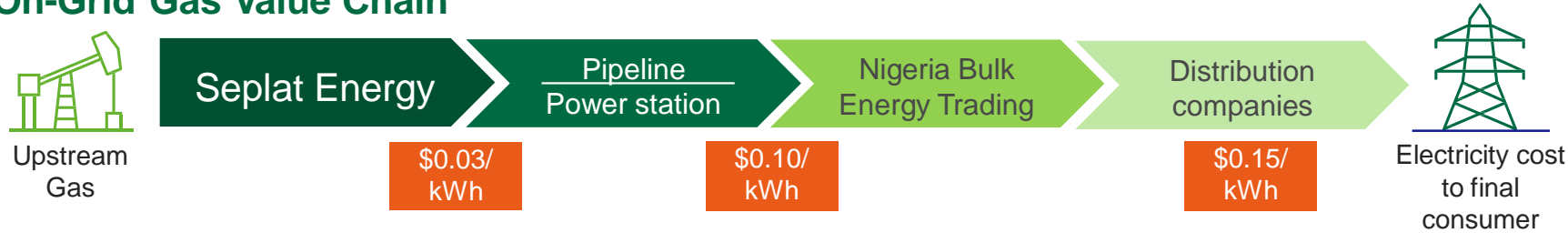
- Potential to displace extensive amounts of biomass used for cooking by most households, c.110 Mtoe in 2020
- LPG cooking gas is a rapidly growing segment, estimated at 1.1 Mtoe (1.3 bcm) in 2020
- Wood Mackenzie forecast demand to increase at a CAGR of 7.6% to reach 5.5 bcm in 2040, equates to 7m tonnes.
- Other opportunities in CNG for automobiles
- Possible entry strategies:
 - JV or acquisition

EXTEND DOMINANCE OF THE GAS MARKET



Capture additional value along the value chain

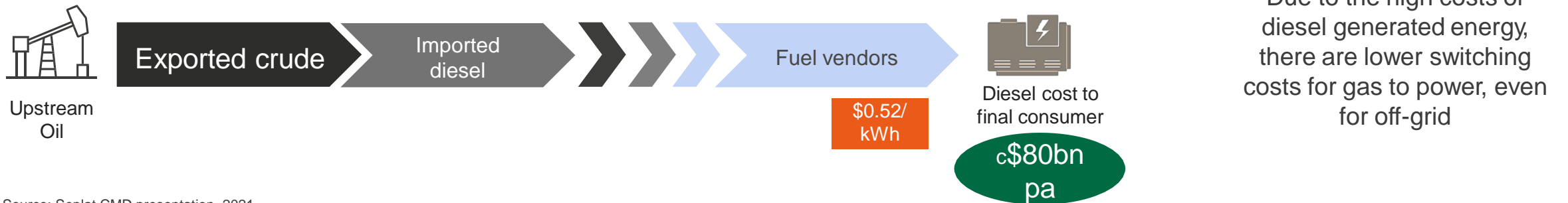
On-Grid Gas Value Chain



Off-Grid Gas Value Chain



Off-Grid Diesel

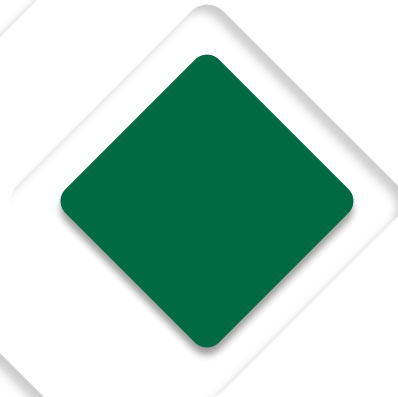


Source: Seplat CMD presentation, 2021

CONCLUSION



› Nigeria has made a commitment to cut its carbon emission to net-zero by 2060. However, gas will play a key role in transitioning the country's economy across sectors. Data and evidence shows that Nigeria can continue to use gas until 2040 without detracting from the goals of the Paris agreement.



› Nigeria has huge resources of natural gas, estimated at 203.2Tcf, about 3% of global gas reserves which is the largest in Africa with opportunities for capture and economic use both on-grid and off-grid



› Seplat currently supplies ~30% of gas to power in Nigeria and is positioned to access Nigeria's main demand centres through additional capacity from ANOH, Sapele gas plant and additional resource base from the MPNU acquisition

THANK YOU

CONTACT US

Lagos

Seplat Energy Plc
16A Temple Road,
Ikoyi,
Lagos, Nigeria.

T: +234 (0)1 277 0400

E: info@seplatpetroleum.com

London

Seplat Energy Plc
4th Floor,
50 Pall Mall,
London SW1Y 5JH

P: +44 (0)20 3725 6500

E: info@seplatpetroleum.com

W: www.seplatenergy.com

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