

# 26<sup>th</sup> World Gas Conference

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## FLNG: applying advanced technology to bring more natural gas to market

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# DEFINITIONS AND CAUTIONARY NOTE

Reserves: Our use of the term “reserves” in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term “resources” in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers 2P and 2C definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divestments and year-average pricing impact.

Resources plays: Our use of the term ‘resources plays’ refers to tight, shale and coal bed methane oil and gas acreage.

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# THE NEW ENERGY FUTURE BY 2050



## POPULATION

9 billion people, 75% living in cities  
(2 billion more than today)



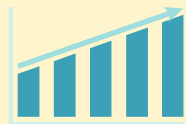
## VEHICLES

2 billion vehicles (currently 800 million)



## RISING STANDARDS

Many millions of people will rise out of energy poverty; with higher living standards energy use rises



## DEMAND

Energy demand could double from its level in 2000...but CO<sub>2</sub> emissions must be half today's to avoid serious climate change



## EFFICIENCY

Twice as efficient, using half the energy to produce each dollar of wealth



## RENEWABLES

3 times more energy from renewable sources

# SHELL'S FLNG JOURNEY



MID 1990s - 2008  
**EARLY THINKING  
AND DESIGN  
EVOLUTION**



2009 - 2010  
**TSC CONSORTIUM  
PRELUDE FEED**



2011 - NOW  
**FID AND  
EXECUTION**

# HOW DOES IT WORK?



**FLNG FACILITY PERMANENTLY  
MOORED NEAR GAS FIELD**

**OFF-LOADING ONTO  
STANDARD LNG CARRIERS**



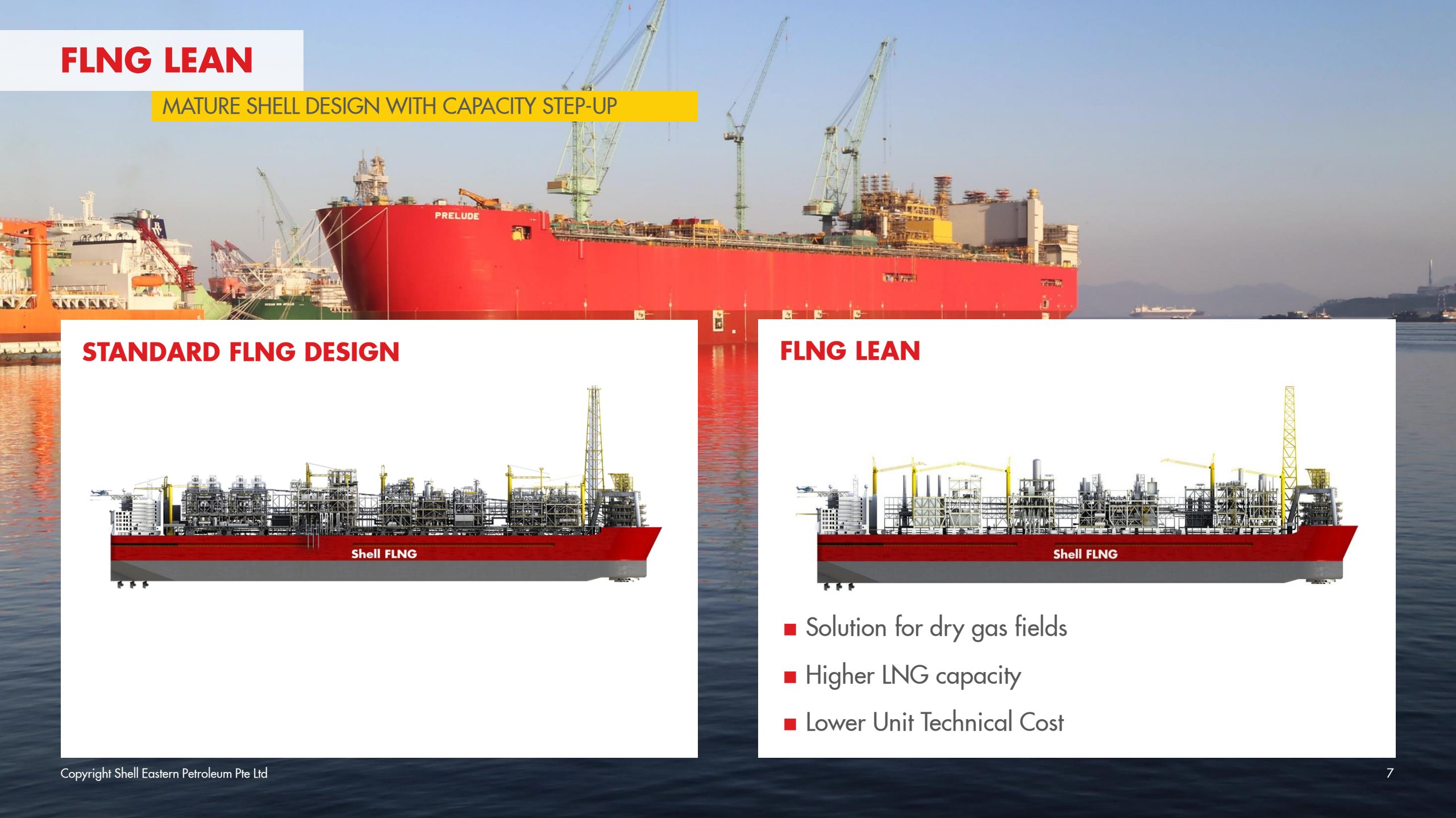
**SUBSEA GAS GATHERING  
FROM WELLHEADS**

# PRELUDE PROGRESS



# FLNG LEAN

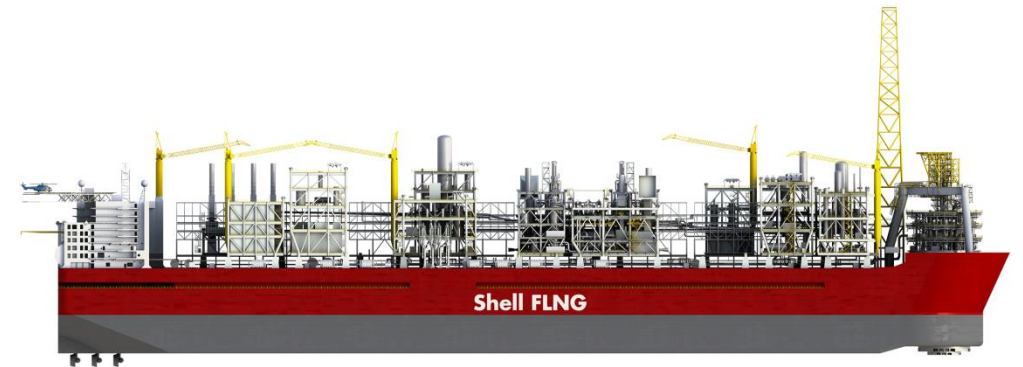
MATURE SHELL DESIGN WITH CAPACITY STEP-UP



## STANDARD FLNG DESIGN



## FLNG LEAN



- Solution for dry gas fields
- Higher LNG capacity
- Lower Unit Technical Cost

