



# LNG Canada

## Final Investment Decision

The right project in the right place at the right time

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# Definitions & cautionary note

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 (SPE) 2P + 2C definitions.

Organic FCF: Organic free cash flow is defined as free cash flow excluding inorganic capital investment and divestment proceeds.

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# Shell and JV participants have taken FID on LNG Canada

Connecting growing Asian demand with abundant low cost Canadian natural gas

Thrive in the energy transition

World-class investment case

Strong licence to operate

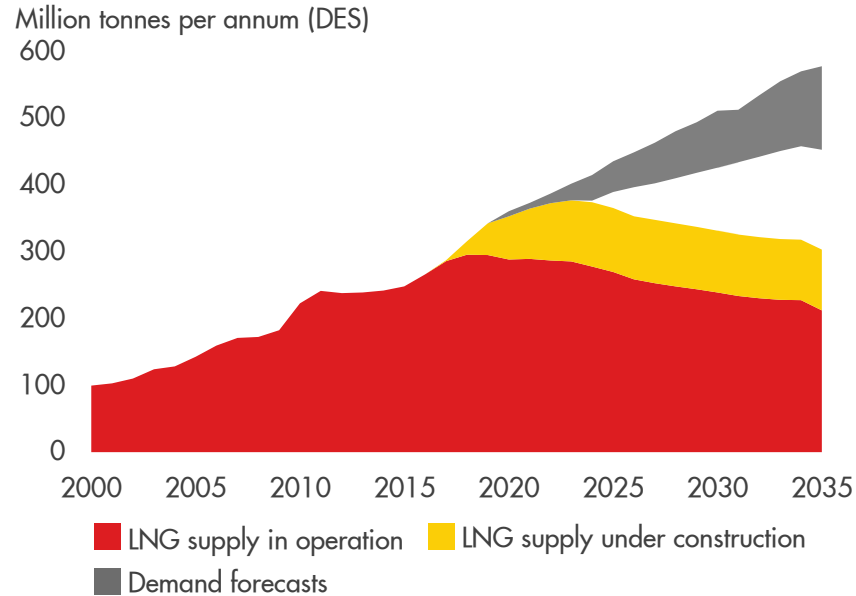
- Consistent with strategy and disciplined approach to capital investment
- Capital investment included within existing \$25-30 billion guidance
- Estimated integrated project IRR<sup>1</sup> ~13%
- Upside with trains 3 & 4
- Competitive cost of supply into Asia
- Well placed for the energy transition
- Support from local communities, First Nations and Canadian Government

<sup>1</sup> IRR defined as the discount rate that results in an NPV of zero for future after-tax cash flows expected from investment in upstream, midstream and trading, at LNG price of \$8.5/MMBtu (Tokyo DES, real terms 2018).



# Emerging LNG supply gap

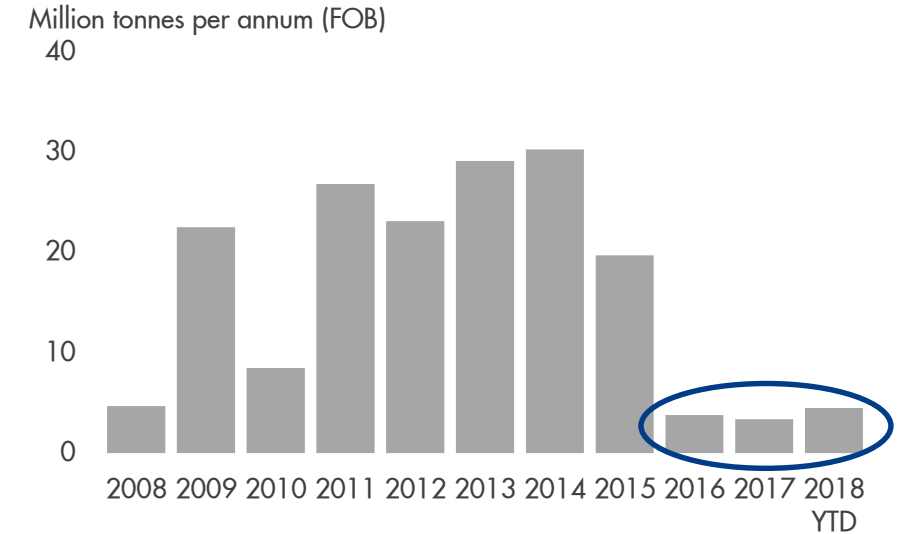
## LNG market & outlook



## LNG demand and supply

- LNG is the fastest-growing gas supply source
- Demand growth driven by Asia
- New FIDs lagging
- Early 2020s: supply gap

## Investment in liquefaction capacity<sup>1</sup>



## Shell response

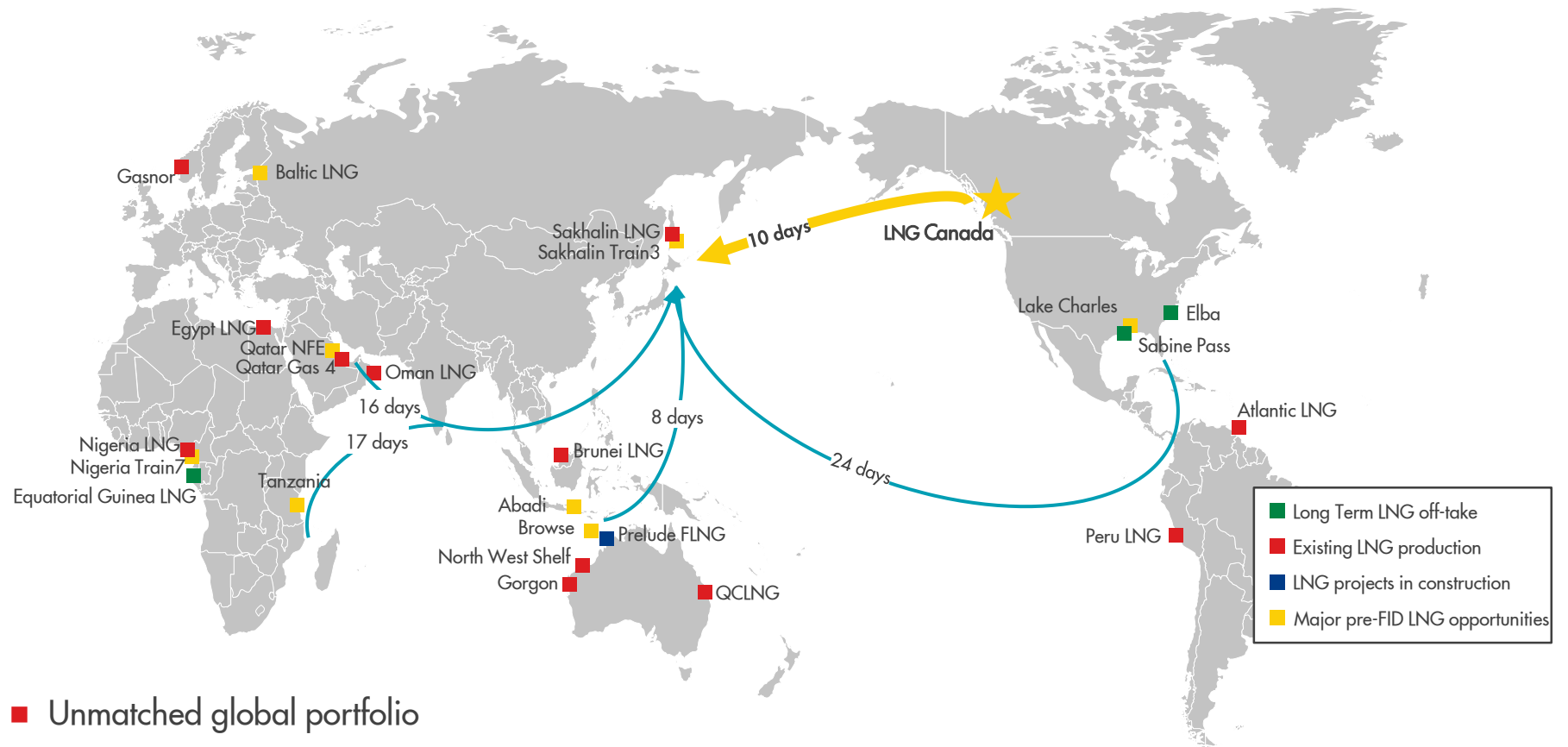
- Globally balanced and resilient portfolio
- Competitive pre-FID opportunities in all supply basins
- Attractive and differentiated position in LNG Canada

<sup>1</sup> Global investment, based on the year of FID.



# LNG Canada well positioned for Asian demand growth

## LNG Canada adds to a world-class LNG supply portfolio

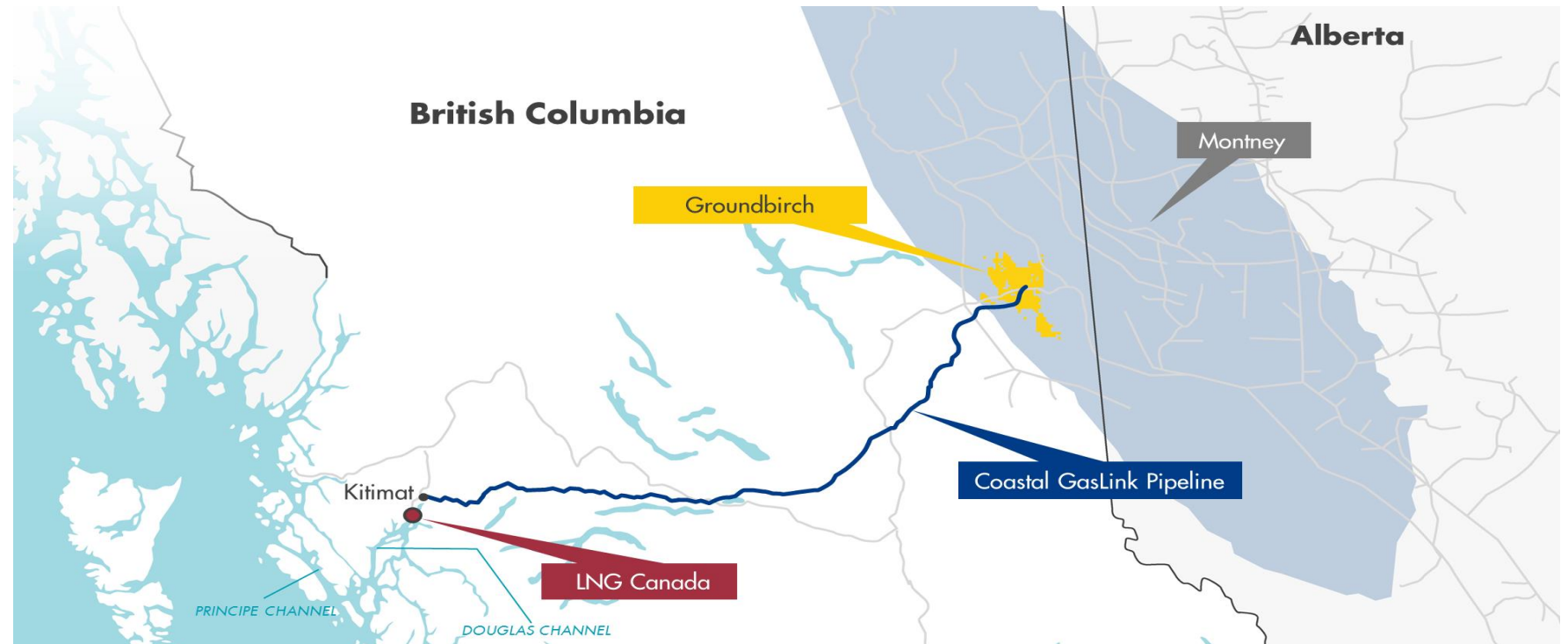


- Unmatched global portfolio
- Supply diversity – access to new low-cost gas basin via Pacific coast of North America
- LNG Canada volumes managed as part of the global supply portfolio
- Shipping time half that of Gulf of Mexico



## Low cost Upstream resource with make or buy optionality

### LNG Canada – gas supply



- Western Canada gas resource is estimated to contain ~300 tcf at a cost sub \$3/MMBtu
- Shell's Groundbirch Montney assets could provide equity gas directly to LNG Canada
- Shell working interest over 9 tcf with cost of supply ~\$2/MMBtu
- Flexibility to optimise feed gas cost by procuring from AECO or producing from own fields



# LNG plant located near Kitimat, BC

LNG Canada – industrial site view



- Industrial site
- Existing ice-free deep-water port, roads, rail, power supplies
- Existing airport nearby
- All major environmental approvals in place for both the plant and the pipeline
- Site preparation well advanced
- Space for expansion to 4 trains



# Improved competitiveness and de-risking of execution

## Enhanced project competitiveness

- Increased capacity of the LNG plant to deliver 1.4 mtpa into ship
- EPC contract re-tendered with construction cost now ~\$1,000/tonne
- Valuable fiscal incentives from British Columbia provincial and Canadian federal government

## De-risked execution

- No technological step-outs, high technical maturity
- Single EPC lump sum contract reduces cost uncertainty
- Modules fabrication in Asian yards with proven track record of successful delivery
- Ample contingency built into pipeline construction schedule

## LNG Canada – current and future site view



# LNG Canada in the world-class investment case

## Affordability

- Capital investment within capital guidance of \$25-30 billion per year
- Consistent with organic FCF expectations for the 2019-2021 period

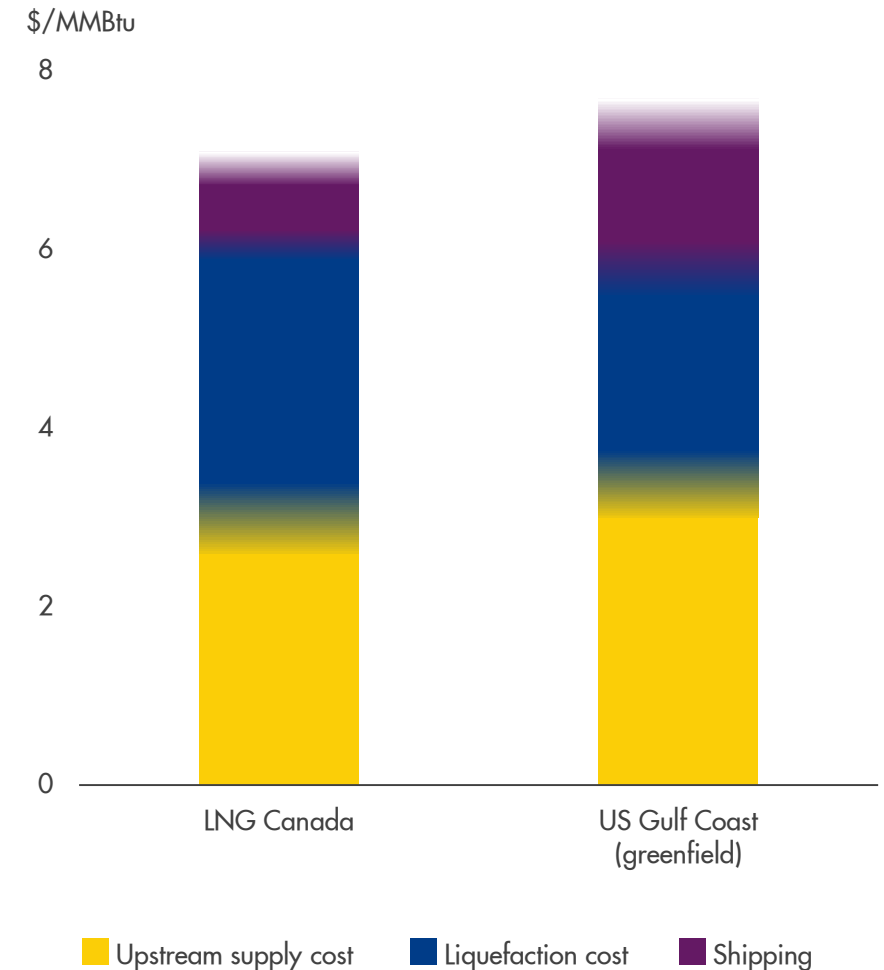
## Competitiveness

- Delivered cost into Asia more competitive than Gulf Coast greenfield plants
- Resiliency with low marginal cash cost

## Returns

- Estimated integrated project IRR<sup>1</sup> ~13%
- Long-life asset with the potential to generate attractive returns and material, resilient free cash flow
- Upside with trains 3 & 4

## Indicative supply cost into Asia<sup>2</sup>



<sup>1</sup> IRR defined as the discount rate that results in an NPV of zero for future after-tax cash flows expected from investment in upstream, midstream and trading, at LNG price of \$8.5/MMBtu (Tokyo DES, real terms 2018).

<sup>2</sup> Shell estimates, Upstream supply cost includes pipeline tariffs.



# Thriving in the Energy Transition

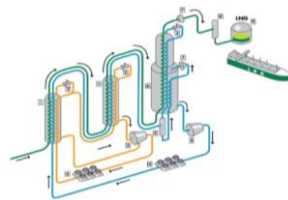
## Competitive low carbon footprint



Low upstream emissions in the Montney



LNG plant clean power import



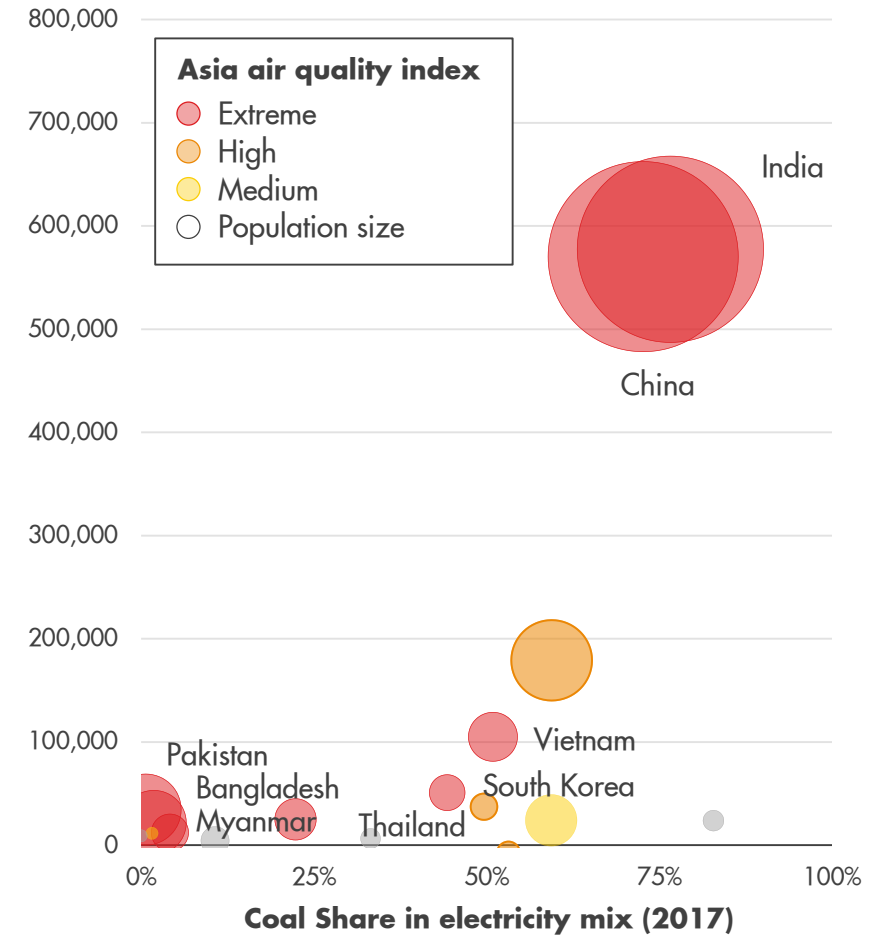
Low CO<sub>2</sub> LNG technology



TransCanada methane principles  
CGL efficient compression

## LNG as a cleaner alternative to coal

Change in energy demand (2017-2035), KTOE



# LNG Canada – right project in the right place at the right time

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