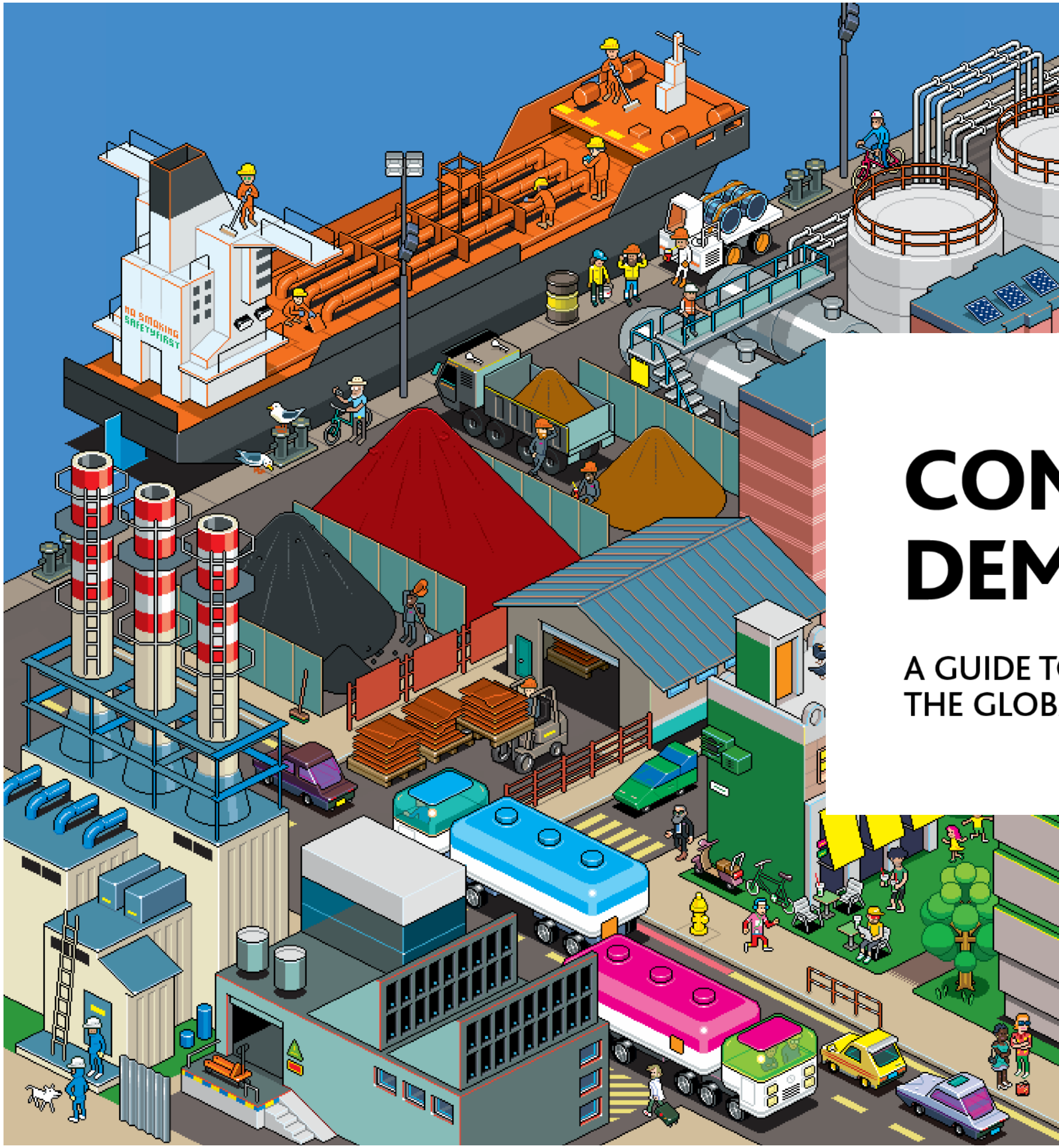


TRAFIGURA

COMMODITIES DEMYSTIFIED

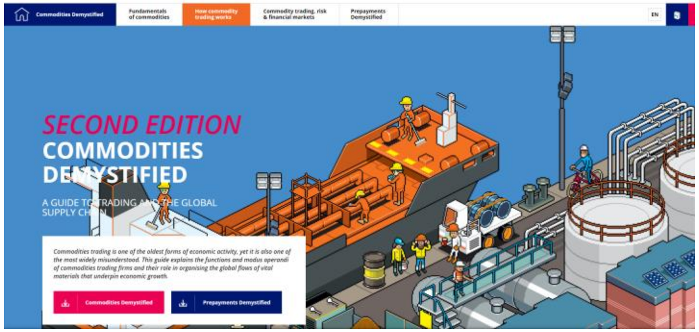
A GUIDE TO TRADING AND THE GLOBAL SUPPLY CHAIN

AGENDA

This outline, summary presentation is based on the Trafigura commissioned publication:

"**Commodities demystified:**
a guide to trading and the global supply chain".

For more information and to download the document, go to www.commoditiesdemystified.info



Trafigura is one of the largest and leading physical commodities trading groups in the world, trading over 365 million metric tonnes of oil and petroleum products, and metals and minerals per year and employing over 8,500 people in 48 countries around the world.

Find out more on how Trafigura is #***AdvancingTrade*** at trafigura.com

INTRODUCTION

- Commodities trading provides vital underpinning for the global economy
- Contrary to common perceptions it is not a speculative business
- Rather it is one built on managing physical and financial logistics within a complex global supply chain
- Traders help resolve market inefficiencies by transforming commodities in space, time and form
- Trading firms take ownership of commodities from source to customer, making risk management a central core competence
- They are indifferent to commodity price levels and managing price risk is one of their key functions
- Resilience and reliability of service are fundamental

FUNDAMENTALS OF COMMODITIES

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/Fundamentals-of-commodities

WHAT ARE PHYSICAL COMMODITIES?

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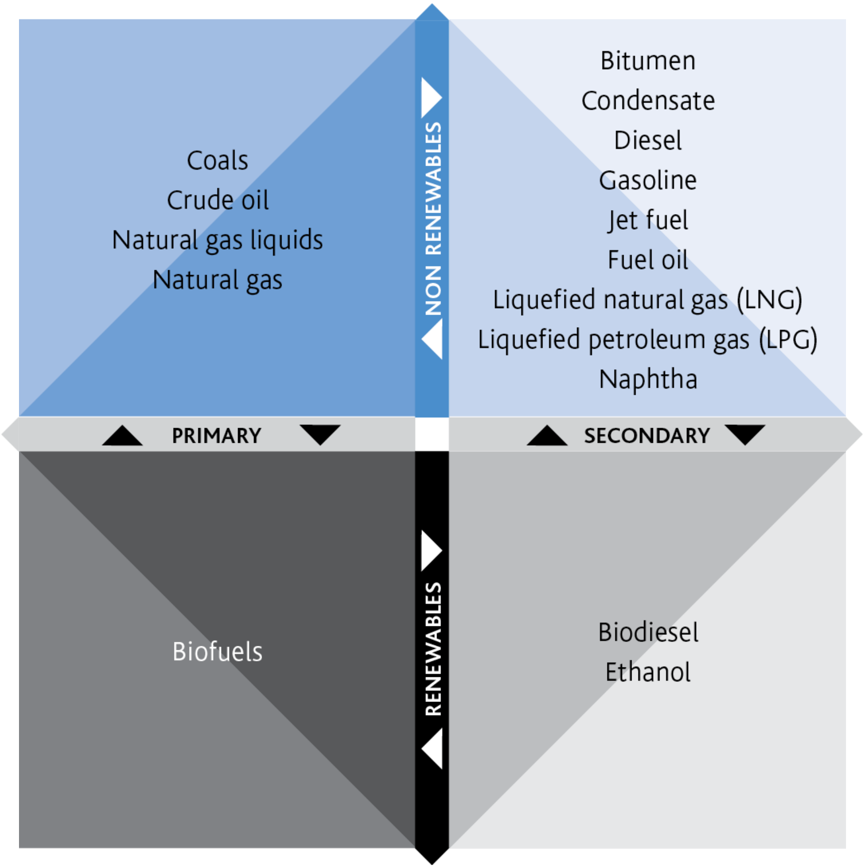
- Products created by natural forces
- Delivered globally, often by sea and usually in bulk
- Exchangeable but non-standard
- Primary (either extracted or captured directly from natural resources) and secondary (produced from primary commodities to satisfy specific market needs) forms

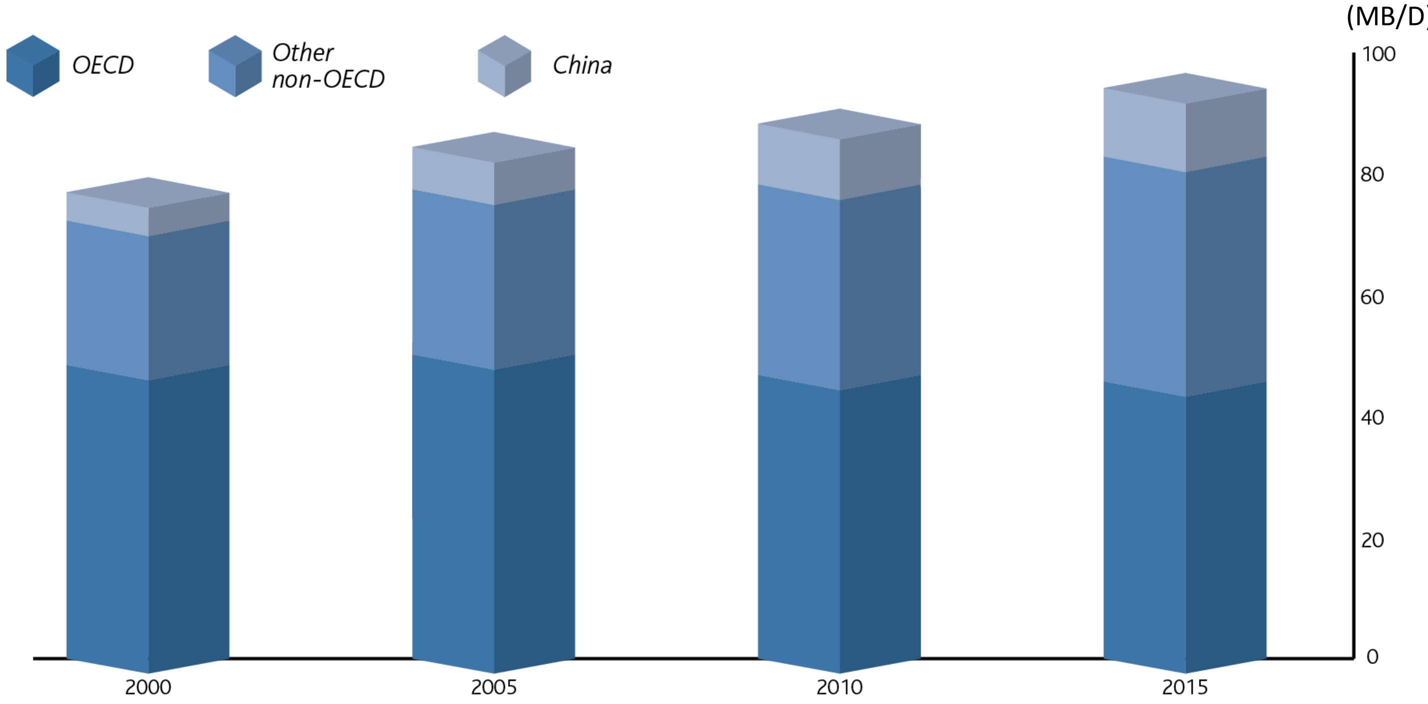
COMMODITIES FOR HEAT, TRANSPORT, CHEMICAL MANUFACTURING AND ELECTRICITY



DRIVERS OF GROWTH: ENERGY TRADING

- Disintermediation of oil majors
- New sources of production
- New patterns of demand

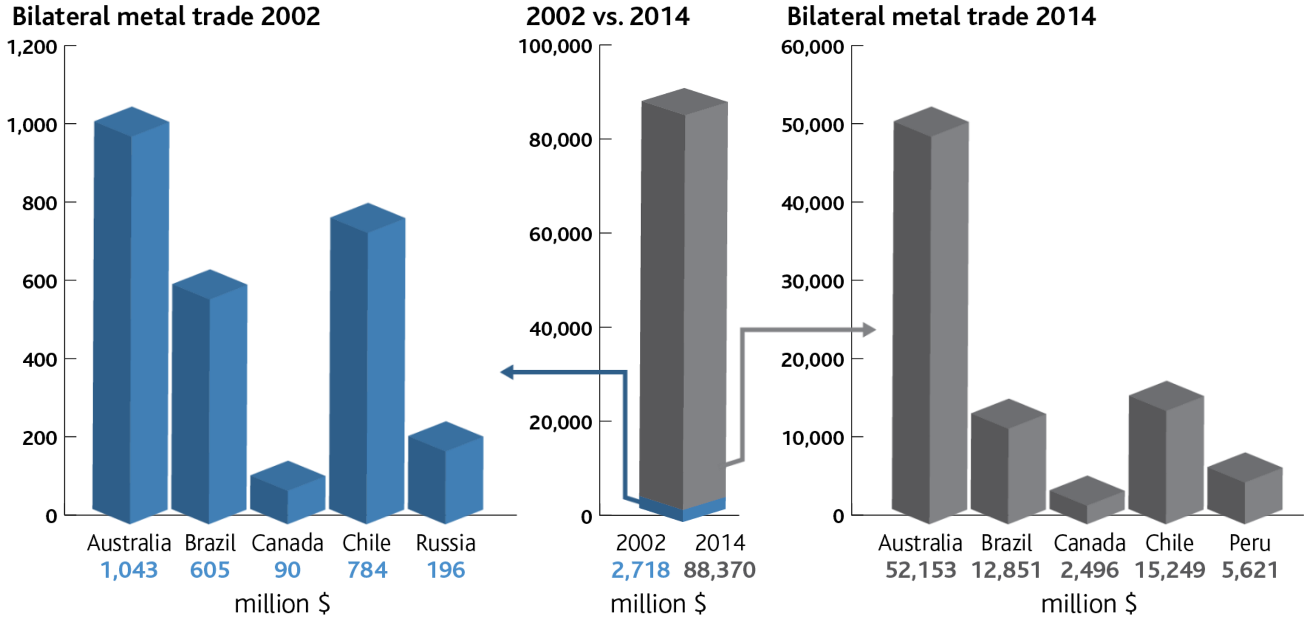
GLOBAL OIL DEMAND GROWTH IS DRIVEN BY NON-OECD ECONOMIES



DRIVERS OF GROWTH: METALS AND MINERALS

- Explosion in Chinese demand for metals and minerals
- Shift of destination countries from West to East
- Supply diversification spawned by commodities super-cycle
- Shift of source countries from North to South

EXPONENTIAL GROWTH IN CHINA'S BILATERAL METAL TRADE IMPORTS



Source: IMF World Economic Outlook, October 2015, p.47

**The metals included are aluminium, copper, iron ore, lead, nickel, tin, zinc and uranium*

CHANGING DYNAMICS OF TRADE

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In metals and minerals as well as in energy, institutionally agreed approaches to commodity pricing have been supplanted by market-led mechanisms

VERTICALLY INTEGRATED INSTITUTIONS	NETWORKED SPECIALIST OPERATORS	Oil majors and miners divested trading, processing and downstream units during the 2000s commodities super-cycle. There has been a partial return to vertical integration in the years since, but specialist operators, having built capacity, now compete for global volume.
FEWER PRODUCERS / FIXED GEOGRAPHIES	MANY PRODUCERS / MULTIPLE GEOGRAPHIES	Rapid growth in Chinese demand, new technologies, geopolitical factors and diverse market participants have spurred new sources of production.
LIMITED TRADING	ACTIVELY TRADED	More transparency and market liquidity have increased efficiency and reduced arbitrage opportunities.
LONG-TERM PRICING	SPOT MARKETS	The shift from institutionally-based to market-led trading has fuelled demand for benchmark-based spot market pricing.
STABLE / INFLEXIBLE	VOLATILE / FLEXIBLE	With markets becoming more active there is more speculative activity. Speculation adds to short-term price volatility, but liquid markets are also easier to hedge.
PRICE RISKS NOT MANAGED	ACTIVE RISK MANAGEMENT	Market participants have become more adept at managing price risk on futures and options exchanges and through OTC transactions.

- Mega-mergers at the turn of the century consolidated trading operations. ExxonMobil for instance now only markets its own oil, until the late 1990s it was a very active trading firm.
- **Vertical disintegration** has continued. Higher oil prices encouraged the majors to sell off refineries and non-core downstream distribution to focus more on highly capital intensive and specialised upstream exploration and production.
- Some commodity trading houses seized the opportunity to buy refineries, around which to build their trading business.
- Independent, specialist operators became increasingly influential with the collapse of the old, vertically integrated, supply chain model. A diffuse, actively traded market created more openings for independent commodity traders and shippers.

OIL TRADING: A MULTIDIMENSIONAL DISCIPLINE

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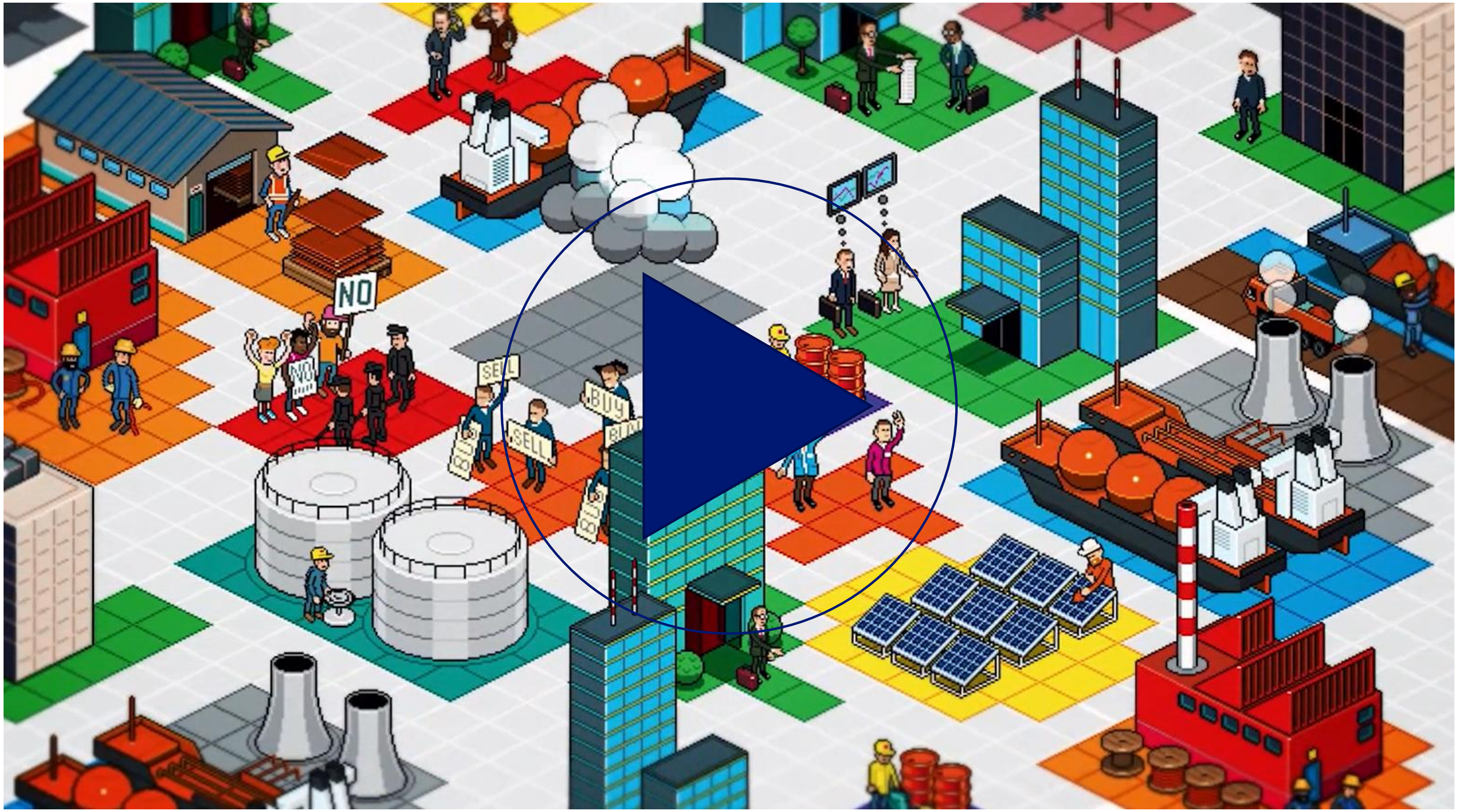
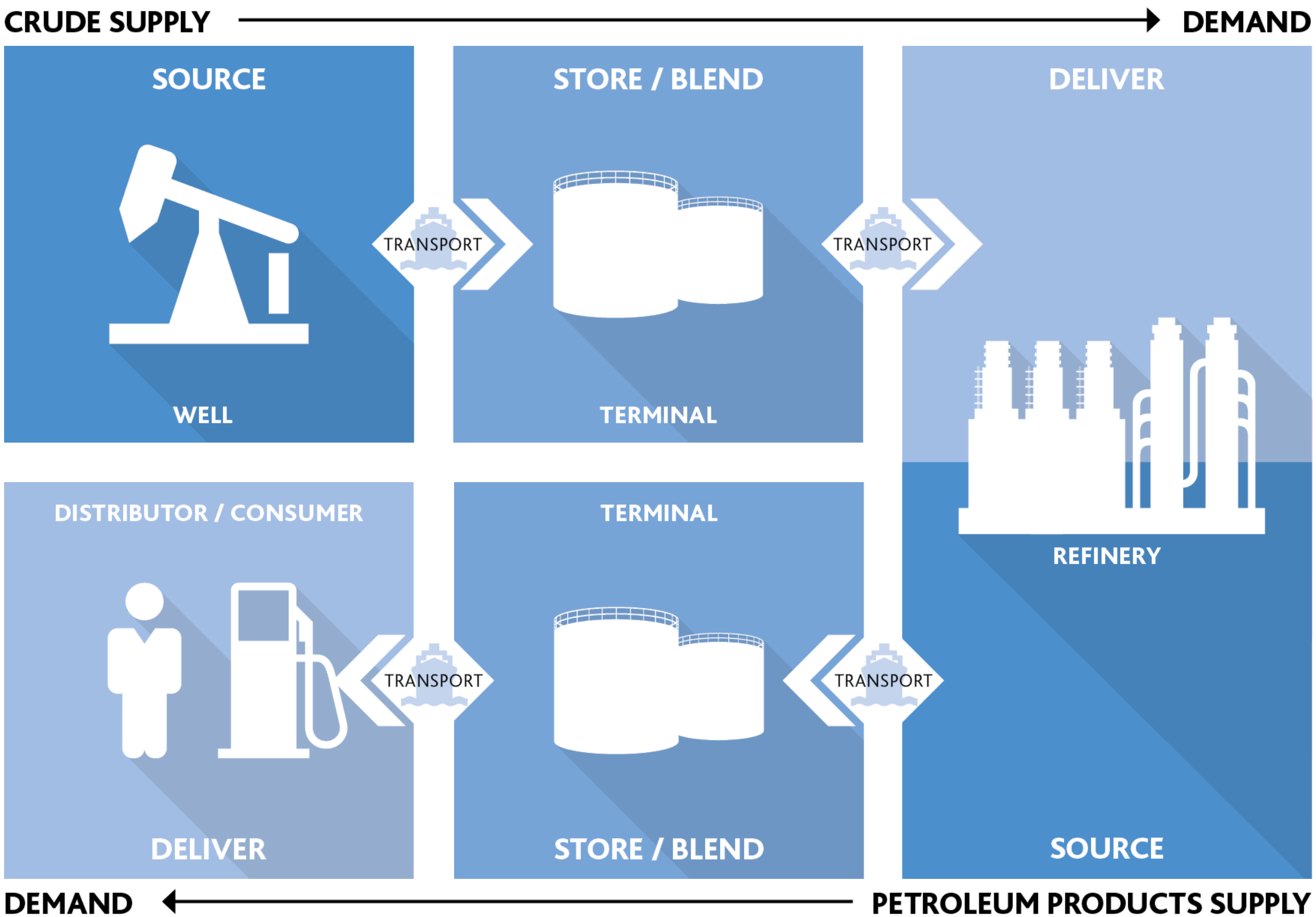


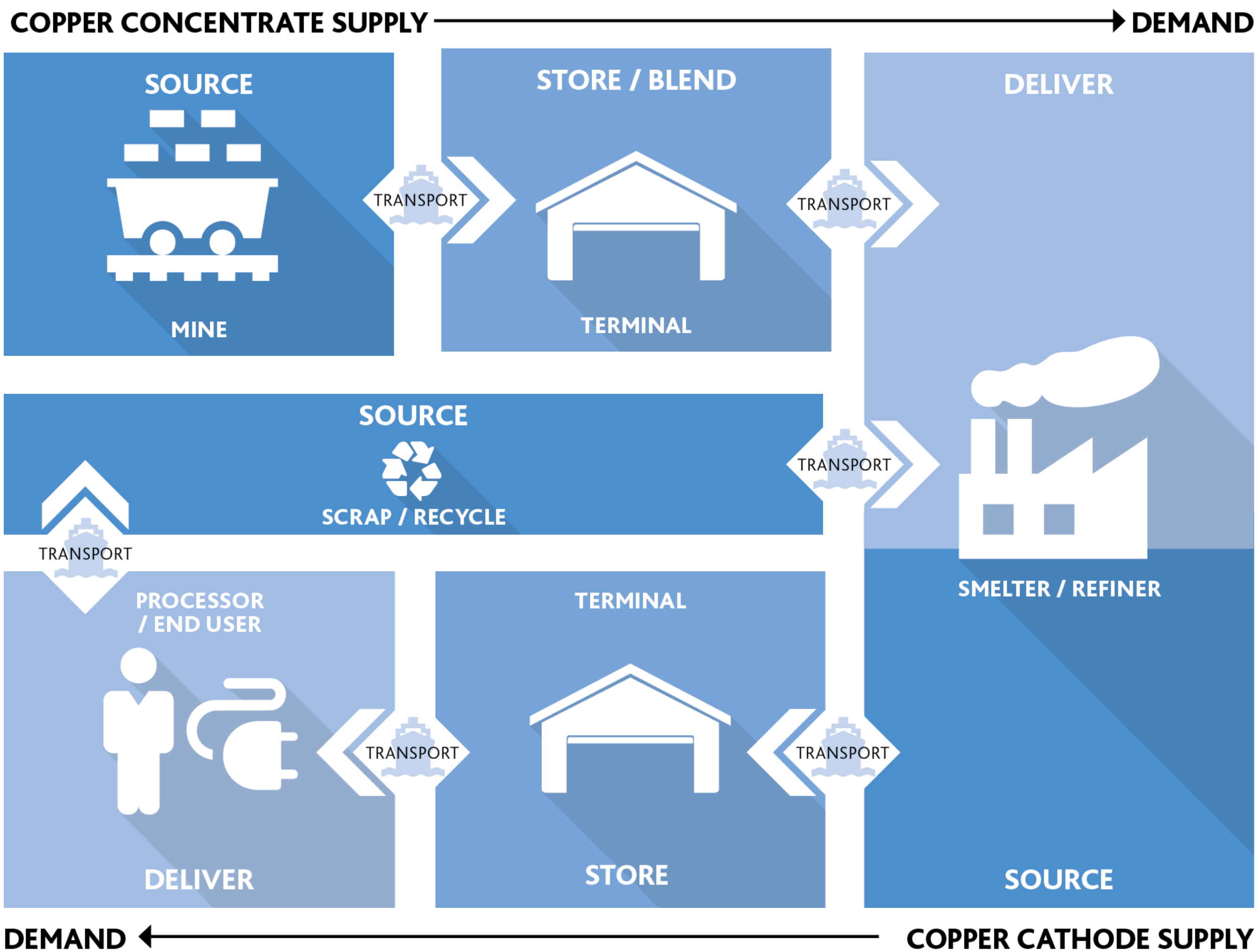
CLICK ON THE FOLLOWING ICONS TO WATCH THE ANIMATION ONLINE

TRADERS AND THE SUPPLY CHAIN

Traders act as conduits between producers and consumers in both primary and secondary commodity markets



COPPER CONCENTRATE SUPPLY CHAIN



THE FUNCTIONS OF TRADING

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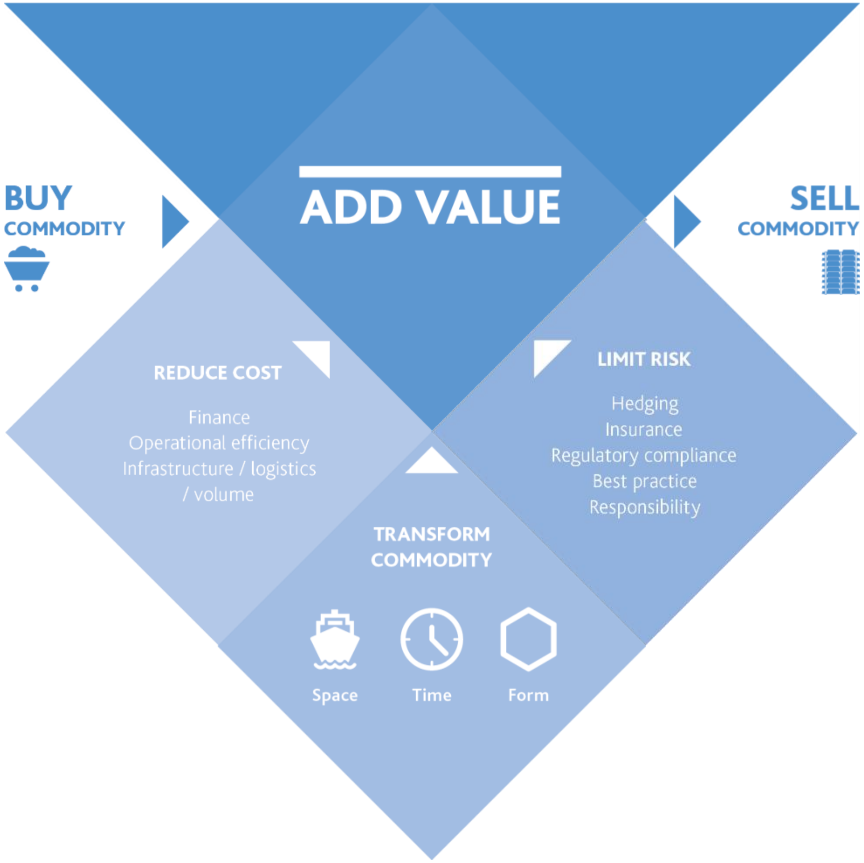
A LOGISTICS BUSINESS BASED ON ARBITRAGE

- Business model based on identifying and eliminating market inefficiencies
- Pricing based on "when, where, what"
- Arbitrage opportunities arise when value of transformation exceeds the cost
- Financial markets used to fund operations and manage price risk



HOW COMMODITY TRADING WORKS

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ARBITRAGE

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- Arbitrage is the process of identifying and acting on market inefficiencies.
- These are reflected in price differentials between untransformed and transformed commodities.
- Where there is market mispricing – where differentials are larger than justified by fundamentals – traders act on these price signals to direct commodities to where they are most valued.
- This is the role they play in **optimising global trade flows**.

Transformation in space:
geographic arbitrage

Transformation in time:
time arbitrage

Transformation in form:
technical arbitrage

OPTIMISING TRADE FLOWS

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In this example, Trafigura is sourcing copper concentrates via an offtake agreement with a Peruvian mine and is delivering copper concentrates to a Finnish smelter.

But the company uses multiple arbitrages based on its trading book to find the most efficient way of fulfilling its commitments.

HOW TRADERS ADD VALUE: STORAGE

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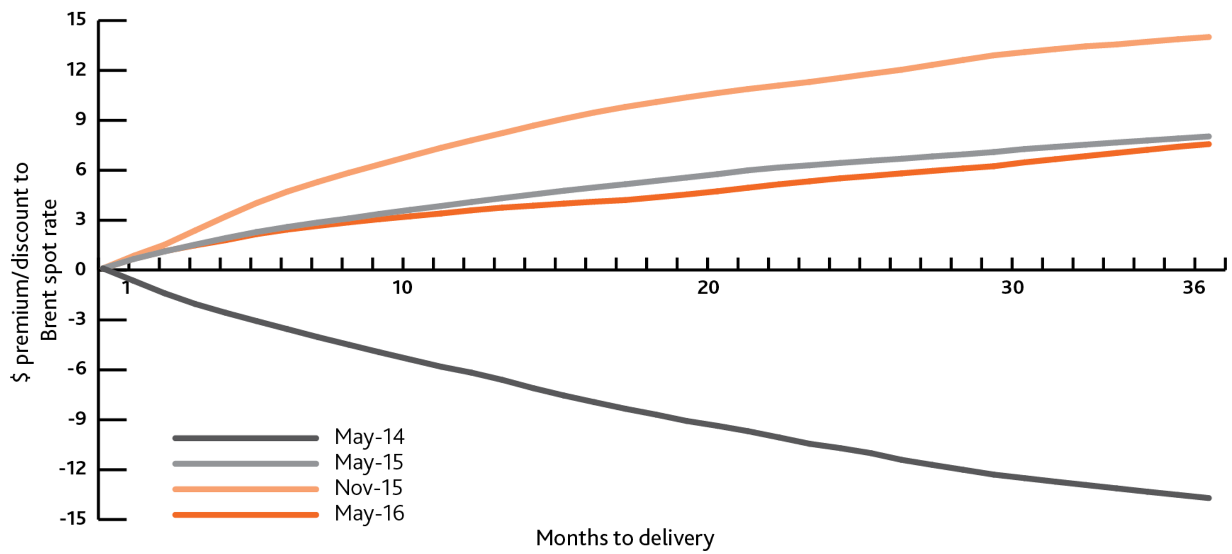
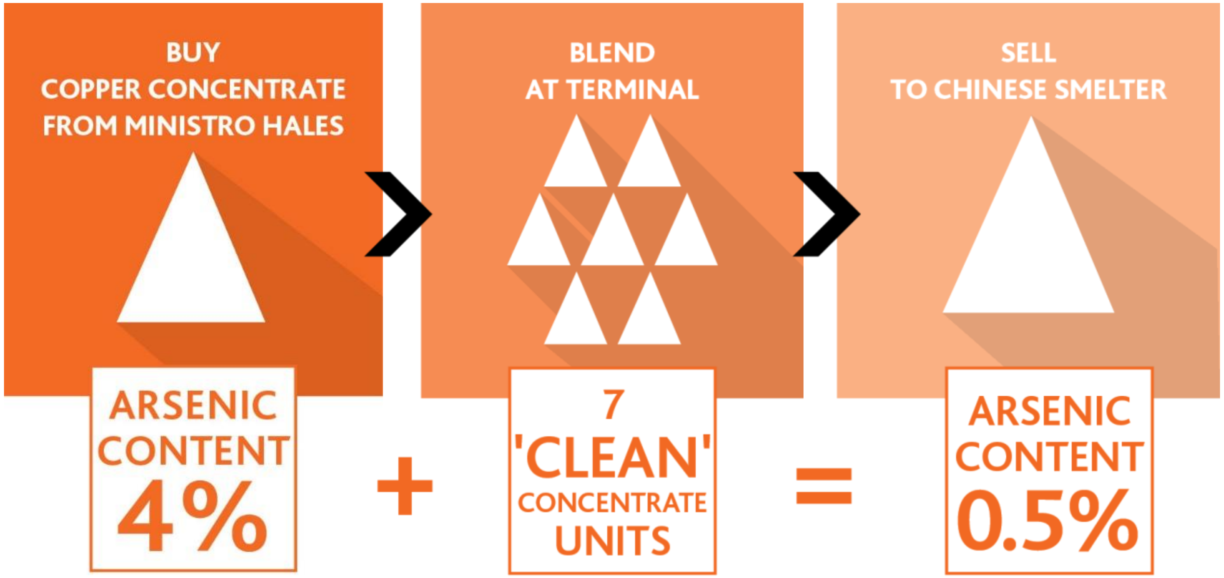
- Commodity markets are characterised by volatility and supply and demand shocks
- Trading firms play a vital role in addressing temporary market imbalances by storing surplus commodities
- They own and control midstream infrastructure and maintain large inventories at strategic locations
- They earn profits over time by reducing stocks when there is excess demand and building inventory when there is excess supply

BRENT FUTURES CURVES

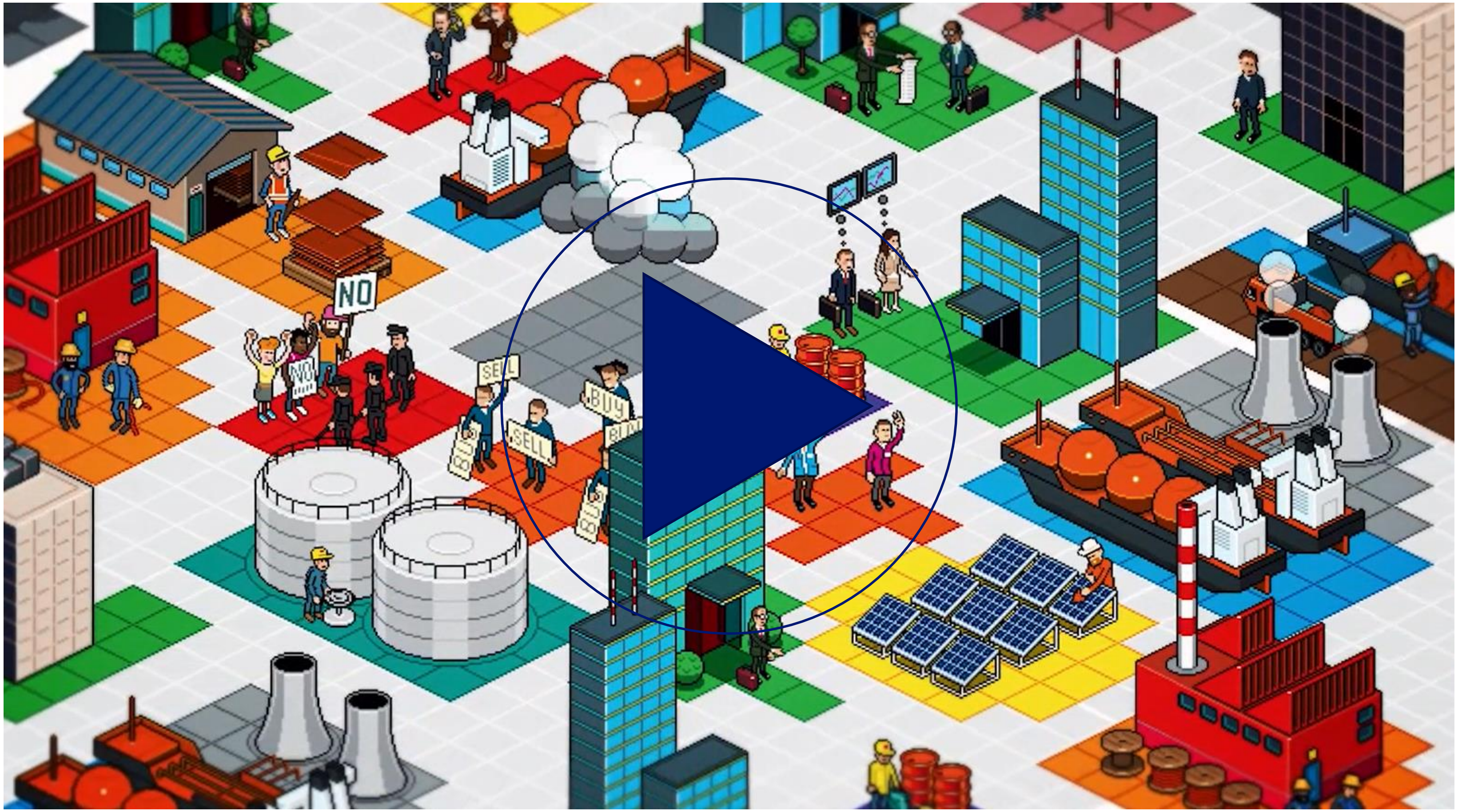


HOW TRADERS ADD VALUE: BLENDING

- Blending is often the cheapest and most efficient way to bridge the gap between demand and supply
- In metals, materials from two or more mines can be combined to create commodities to spec
- Blending can secure better prices by reducing impurities
- In oil, blending is needed to handle the wide diversity of crude grades and refined product specifications



THE ROLE OF OPERATIONS



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COMMODITY TRADING AND FINANCIAL MARKETS

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LINKING THE PHYSICAL AND FINANCIAL

- Trading is a high-volume, low-margin business
- Firms need to operate flexibly at scale
- This requires them to be able to mobilise significant financial resources to finance working capital and manage price risk

TRAFIGURA 2020 KEY FIGURES

267.7mmt
Oil and Petroleum Products total volume traded

$61.0bn
Financial lines available to Trafigura

$147.0bn
Group revenue

96.7mmt
Metals and Minerals total volume traded

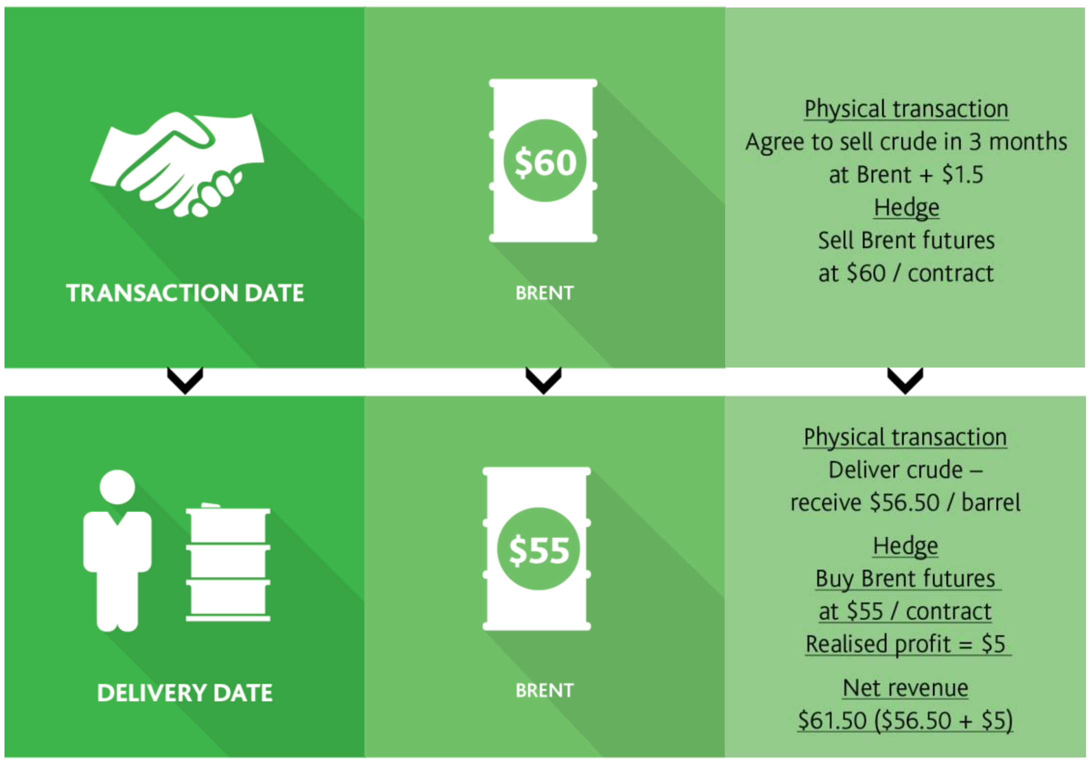
$57.0bn
Total assets

4.6%
Gross profit margin

Read more about Trafigura's 2020 financial performance:
trafigura.com/financials/2020-the-year-in-review

MANAGING PRICE RISK

- Hedging is fundamental to commodity trading
- Trading firms systematically eliminate price exposure using futures contracts
- They are left with more manageable "basis risks" reflecting difference between specific transaction price and hedging instrument



CONCLUDING POINTS

- Commodity trading firms play a vital role in organising an efficient, market-based global supply chain for essential raw materials.
- A more integrated, complex and volatile global economy makes managing risk and large-scale logistics all the more necessary.
- These are specialist skills which call for companies with resilient and responsive business models that can readily access:
  - liquid financing and financial markets
  - global infrastructure
  - extensive networks of counter-parties
- Commodity markets are ever-changing. But the core requirements of the physical trading business will stay the same.

ONLINE

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