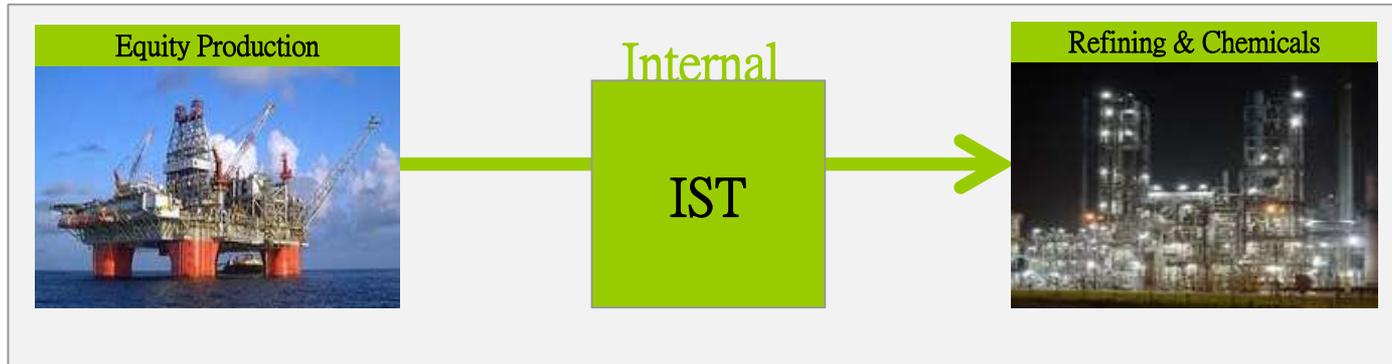




# BP Global Environmental Products

Li Xing  
Macau - March 2017

# Who we are: Integrated Supply & Trading



## External

### Producers



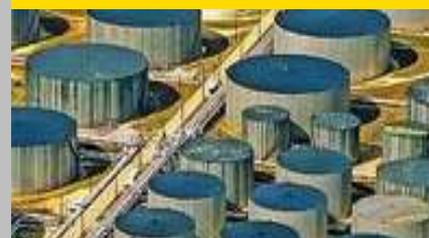
Purchases, aggregates and markets third party oil and gas production

### Refiners



Enters into supply and offtake agreements with third party refineries

### Customers



Supplies the needs of large customers

### Traders

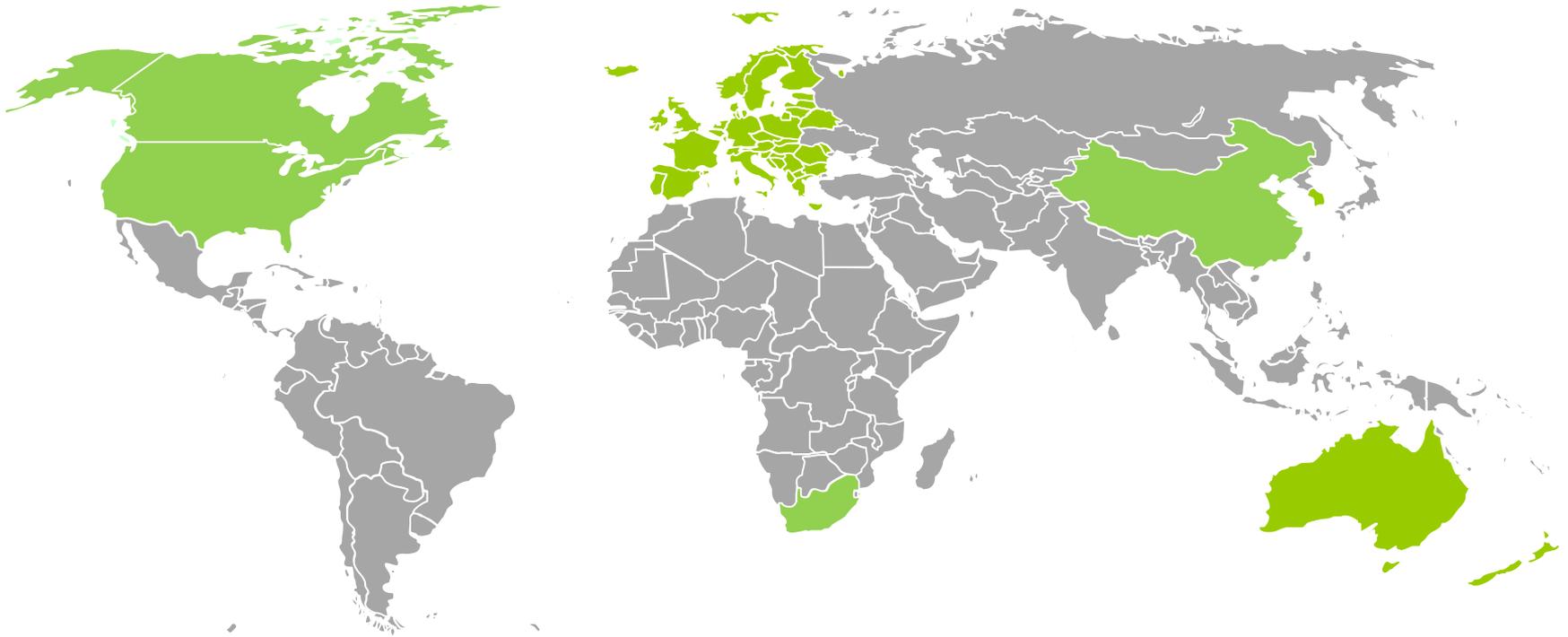


Trades with market participants to optimise BP flows and to maximise value

# Global Environmental Products



The Global Environmental Products team manages BP's exposure to environmental trading schemes across the world. We also provide trading and optimization services to help our partners and customers manage their own exposures to these schemes.



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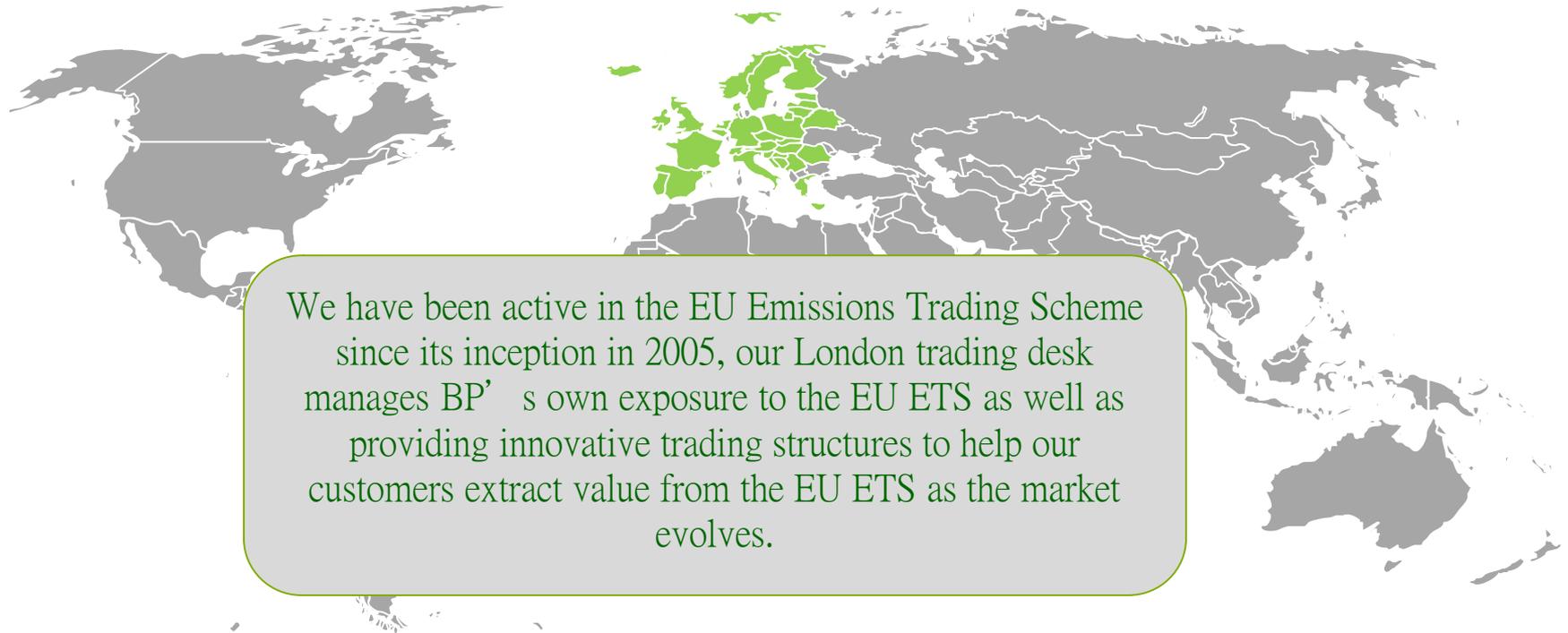


In North America we have trading desks in Houston and Chicago managing exposures to regional carbon schemes such as California and have built up an extensive portfolio of offsets which provide our customers with opportunities to reduce their cost of compliance.

# Global Environmental Products



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We have been active in the EU Emissions Trading Scheme since its inception in 2005, our London trading desk manages BP's own exposure to the EU ETS as well as providing innovative trading structures to help our customers extract value from the EU ETS as the market evolves.

# Global Environmental Products

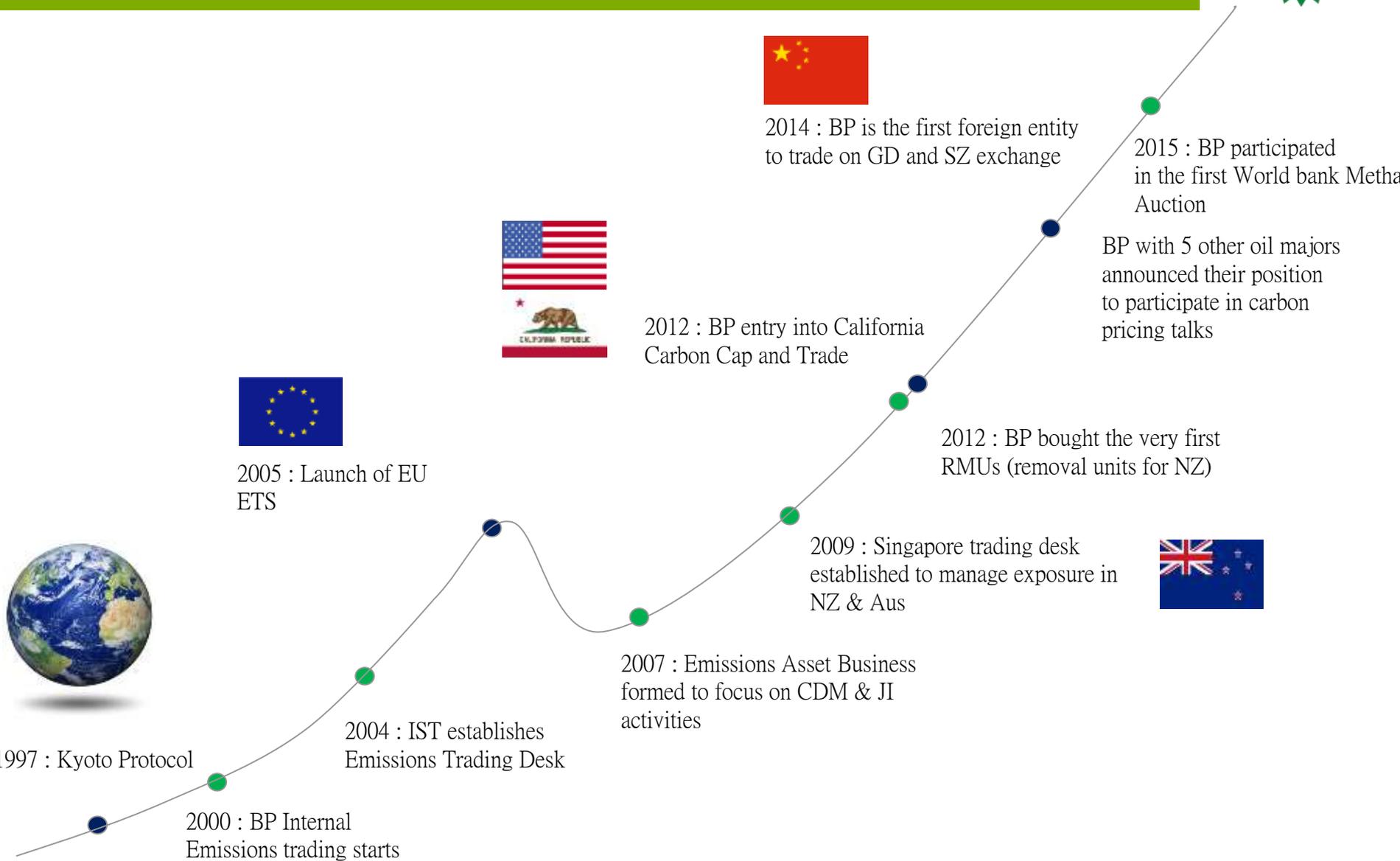


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In Asia Pacific we cover schemes in Australia, New Zealand and China, as well as our offset investments in the region. Our current focus on China reflects the expected development of China as the world's largest carbon trading scheme.

# BP' s carbon journey



# Business Model



**BP Assets** – we act as the single face to market for BP Assets in all markets in which BP has exposures.



**Global Offset Portfolio** – we invest in and develop offset projects across all the schemes we are active in and use these to help our internal and external customers manage their exposure to cost of compliance.



**Customer Business** – we offer trading services to our customers, including market access, optimisation opportunities and integrated carbon management solutions.

**Trading** – we have direct market access and trade with market counterparties to balance portfolio and take proprietary positions.



# Why a Central Trading Team?



There are significant benefits to having all emissions trading centralized into one team to manage the Group requirements efficiently and generate value for the Group.

**Risk Management:** there are significant risks in the emissions markets which can lead to losses, such as risk of fraud, regulation changes, market price moves and credit risk (see appendix). Having trading activity centralized in one team enables efficient monitoring and management of these risks, thus reducing BP exposure to losses.

**Trading Expertise:** developing trading capabilities required to generate value from emissions markets involves investment in training personnel and developing systems and models such as price forecasting. These are best developed in one center of expertise for the benefit of BP Group.

**Information flows:** all of BP Groups trading requirements are managed centrally, which provides valuable flow on information on market fundamentals which can then be used to inform trading decisions to manage timing and volume of purchases or sales.

**Co-ordinated Decision Making:** a single face to the traded market enables coordinated decision making rather than having several hundred un-coordinated trading decisions being made at a local level which may be contradictory or result in risk being multiplied.

# BP Emissions Management Model



# Trading Infrastructure



## Pre Deal

## Deal

## Post Deal

### Front Office



#### Analyst

Constantly monitor market data to identify profit making opportunities

#### Trader

To execute trades and manage the strategy of the book

#### Originator

Connects with entire market to develop ideas into deliverable businesses

### Control



#### Account Opening

Undertake thorough background checks on clients to ensure that we will never trade with the wrong customer

#### Credit

Ensure that the counterparties we trade with are solvent and credit worthy

#### Product Control

Maintaining and checking the exposure of the book

### Support



#### Legal

Drafting iron-clad agreements

#### Contract

Ensure contracts are signed and received on a timely basis

#### Compliance

Ensure all negotiations are conducted to a high level of ethical standards  
Compulsory Passport to Work tests for traders and all employees

#### Settlement

Ensure timely invoicing and settlement of payments

#### IT

Ensure IT support for all functions throughout the company

# Price Drivers in an ETS



## Economy

- Economic activity is a key driver of emissions and hence has a large impact on price.
- A sharp contraction in economic activity can often lead to steep price falls, particularly if companies sell credits to generate cash during an economic downturn.

## Weather

- Weather affects demand for power, with increased demand for heating or air conditioning.
- Weather also impacts supply, with renewable power generation varying depending on levels of wind, sunshine and rainfall.

## Legislation

- Legislation is key factor in defining the price in any ETS, as without legislation no ETS would exist.
- The size of the cap affects the supply of credits, in many cases the early years of an ETS tends to be over-supplied with generous initial caps, which are then tightened in subsequent years.
- Regulators may also intervene unexpectedly to change the rules, often with large price impacts that were not necessarily intended.
- Changes around the quality of offsets that are allowable in the scheme also have a significant impact on the available supply.

## Power Generation

- Power producers will switch between burning gas and coal to generate power depending on their relative prices.
- When coal prices fall relative to gas then producers will burn more coal, which emits more CO<sub>2</sub> and hence demand for credits will rise.

## Investment

- Carbon credits are beginning to be seen as an investment asset by financial investors and so price can be impacted by their behaviour.
- Financial institutions will purchase spot credits and sell on a forward basis to bank the price differential.

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