

# CARBON MARKET

29<sup>th</sup> August 2018



In short:

**STATKRAFT**



Environment-  
friendly power  
generation

**63** TWh

**97%**

Renewable energy



More than  
**500.000**

energy related  
contracts traded  
per year



**3600**  
employees in  
16 countries

**100%**  
state-owned



**353**

power plants  
around the  
world

# Statkraft's Carbon Activities

- ▶ **Compliance market**
  - Client base in the energy and industrial sectors
  - Providing market access
  - Product development and strategy optimization
- ▶ **Voluntary market**
  - Statkraft production of voluntary credits
  - Offset portfolio and network
  - Provider for GHG emission reduction units
- ▶ **Exchange trading**
  - Hedging customer portfolio
  - Auction participation
  - Active on global exchanges
- ▶ **An eye on new markets**



# Carbon in Statkraft

**Indirect exposure** of renewable power assets through power price



**Direct exposure** of gas-fired assets in Germany

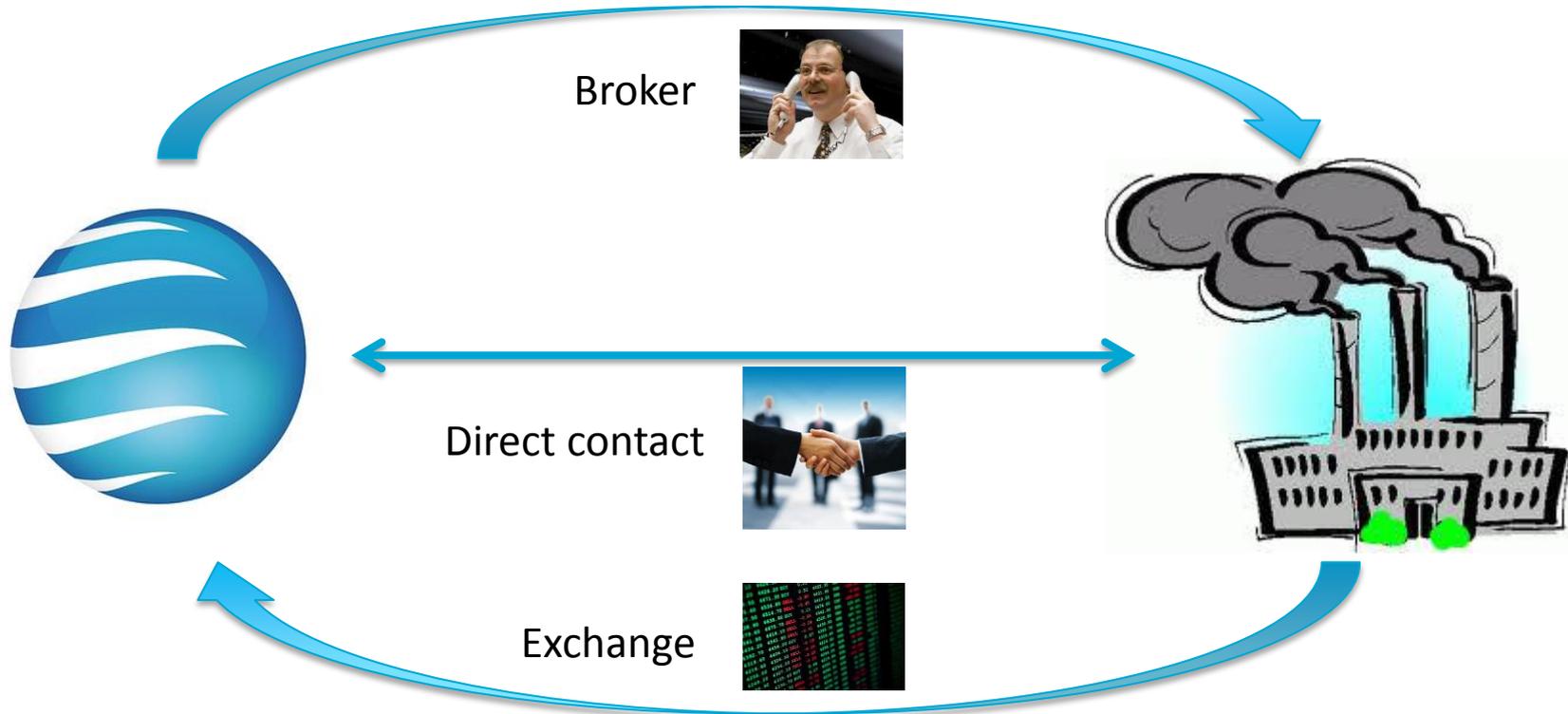
**Carbon origination & trading** as part of Statkraft market operations



# GEM Team Structure



# Different routes to market



# Carbon Exchanges

## ICE-ECX

- Largest exchange
- Spot
- Futures
- Hosting UK EUA auctions

## EEX

- Spot
- Futures
- Leading exchange for EUA auctions

## CME-Nymex

- Futures

## Nasdaq OMX

- Spot
- Futures

# Contracts for EUA/CERs

## Spot

- Delivery and payment within 1 to 5 days
- Tailor made spot contract
- Limited or no credit risk

## Forward

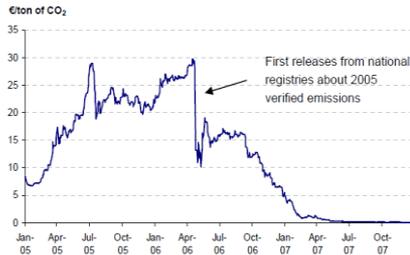
- Bilateral contracts
- Commonly used contracts are: EFET, IETA, ISDA
- Credit risk towards counterpart
- Can contain non-standard clauses and special conditions

## Future

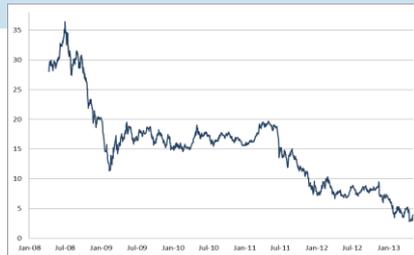
- Traded on exchanges
- Standardized commodity
- High liquidity
- Settlement via clearing bank
- Daily margin calls

# EU ETS moving on to Phase 4

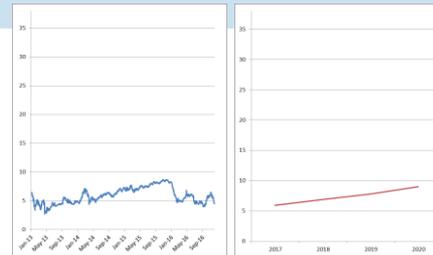
Phase 1  
3 years  
2005 - 2007



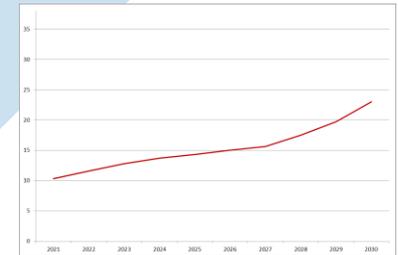
Phase 2  
5 years  
2008 - 2012



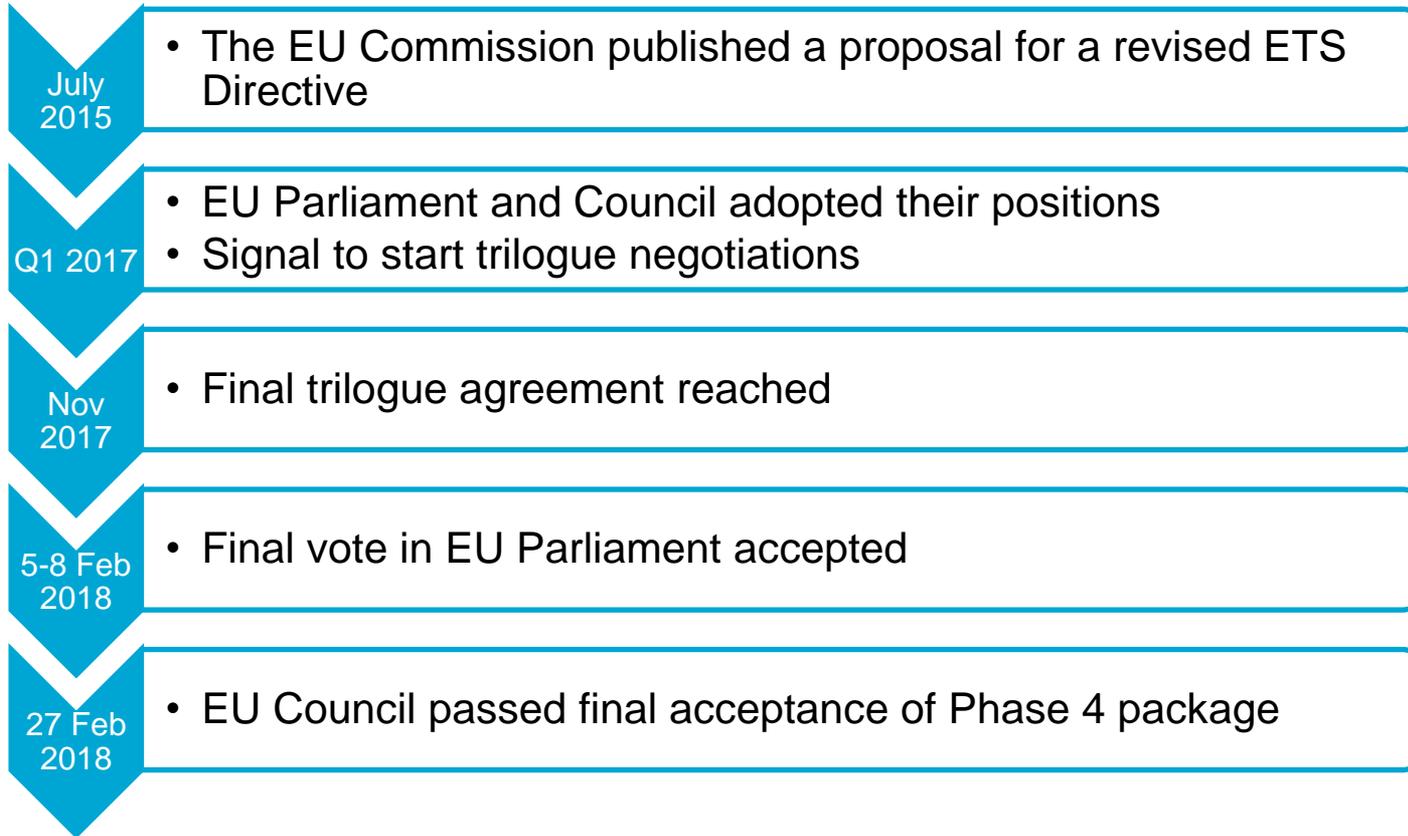
Phase 3  
8 years  
2013-2020



Phase 4  
10 years  
2021-2030



# Status of EU ETS review for Phase 4



# Key measures to strengthen the EU ETS



1. Increase of the Linear Reduction Factor (annual reduction of the cap)
  - The linear reduction factor will be increased from 1.74% to 2.2%
  - This leads to a sharper decline of the annual cap from 2021 onwards
2. Changes to the intake rate of the Market Stability Reserve (MSR)
  - The MSR intake rate will be doubled from 12% to 24% of the cumulative oversupply for the first 5 years (from 2019 to 2023)
  - As of 2024 the intake rate will go back to 12%
  - This will absorb the oversupply in the market much faster than the original MSR
3. Limits on the size of the MSR through invalidation of allowances
  - From 2023 onwards, the size of the MSR will be limited to the auction volume of the previous year
  - Any holdings in the MSR above that amount will be cancelled
  - This can remove as much as 2 billion EUAs from the market

# Clean Development Mechanism (CDM)

## ▶ Kyoto Protocol

- Developed countries agreed to reduce greenhouse gas emissions to (on average) 5.2% below 1990 levels in the period 2008-2012
- An emissions limit was set for each country

## ▶ The Kyoto Protocol established 3 flexible mechanisms to reach the target:

- Emissions trading: between countries
- Joint Implementation:
  - ✓ Emission reduction projects in developed countries
  - ✓ Example: energy efficiency project in France
- Clean Development Mechanism (CDM)
  - ✓ Emission reduction projects in developing countries
  - ✓ Example: Small hydro plant in Panama

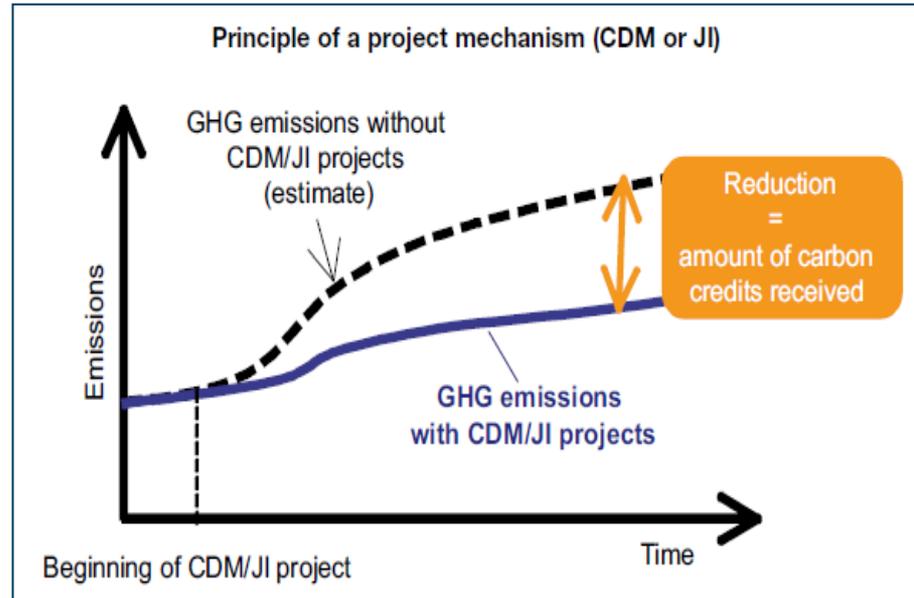
# About CDM

## Governance: CDM Executive Board

### Projects

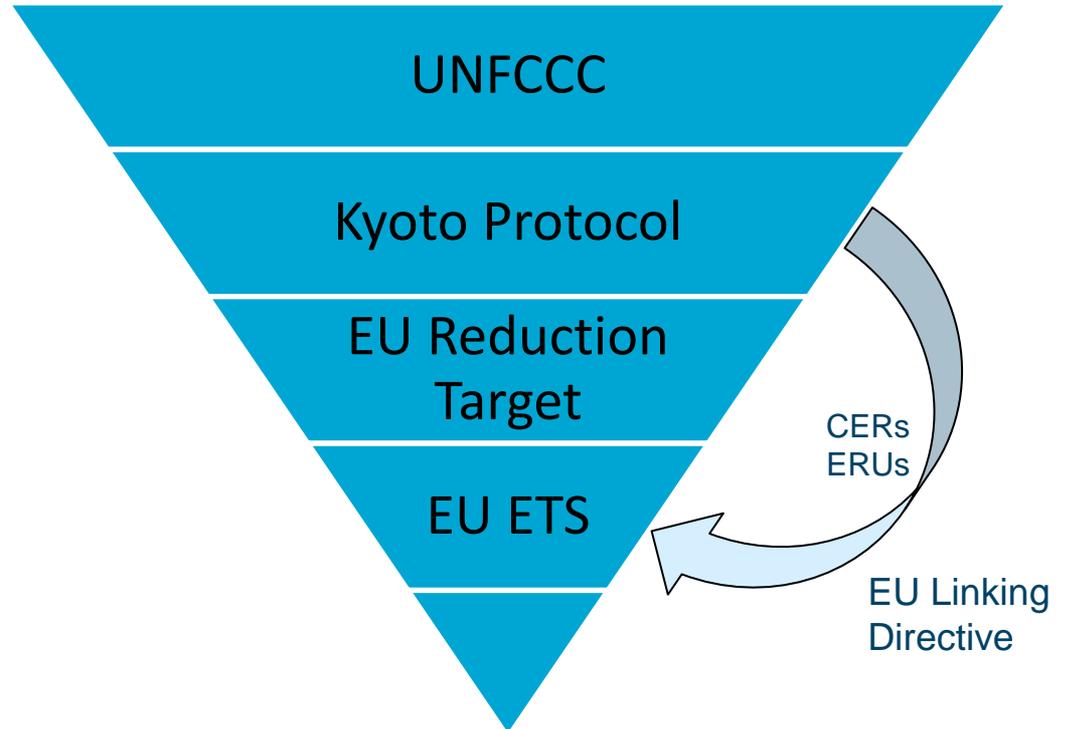


### Methodologies



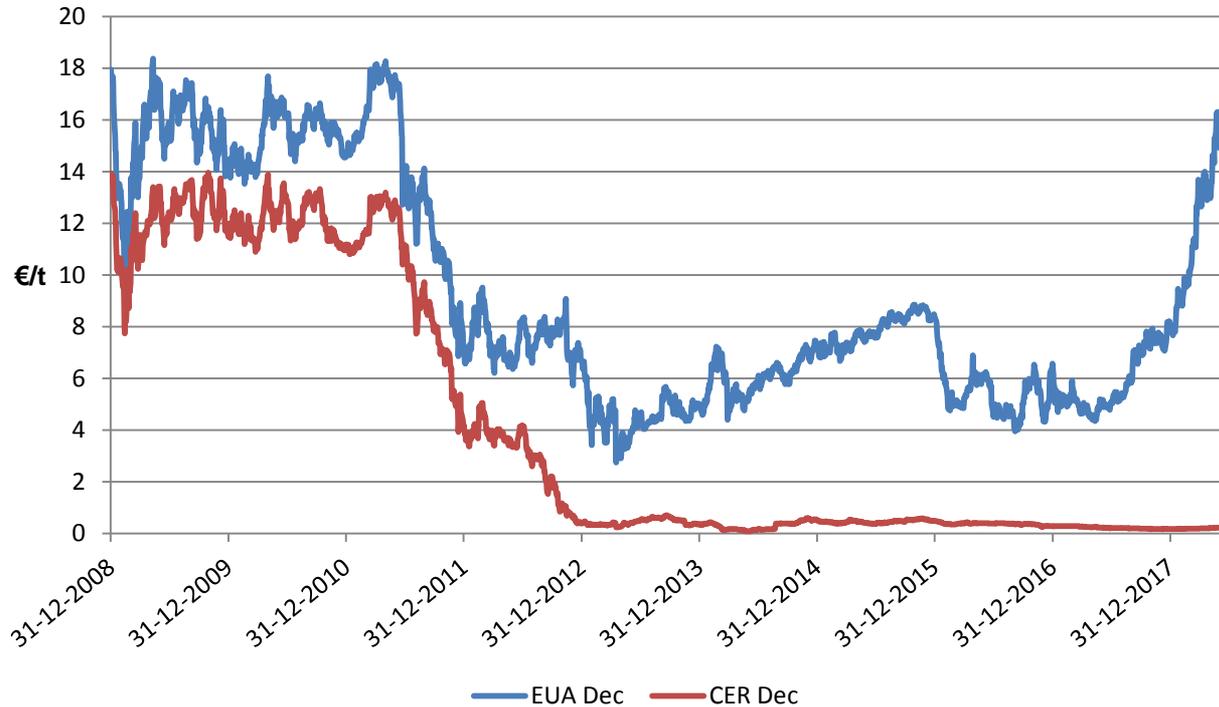
# EU ETS: (used to be) main source of demand

- ▶ The EU Linking Directive forms a link between the Kyoto Mechanisms and the EU ETS
- ▶ The Directive allows for the use of CERs and ERUs for company compliance in the EU ETS up to a certain limit



# EUA vs CER Price History

## EUA-CER Historic prices

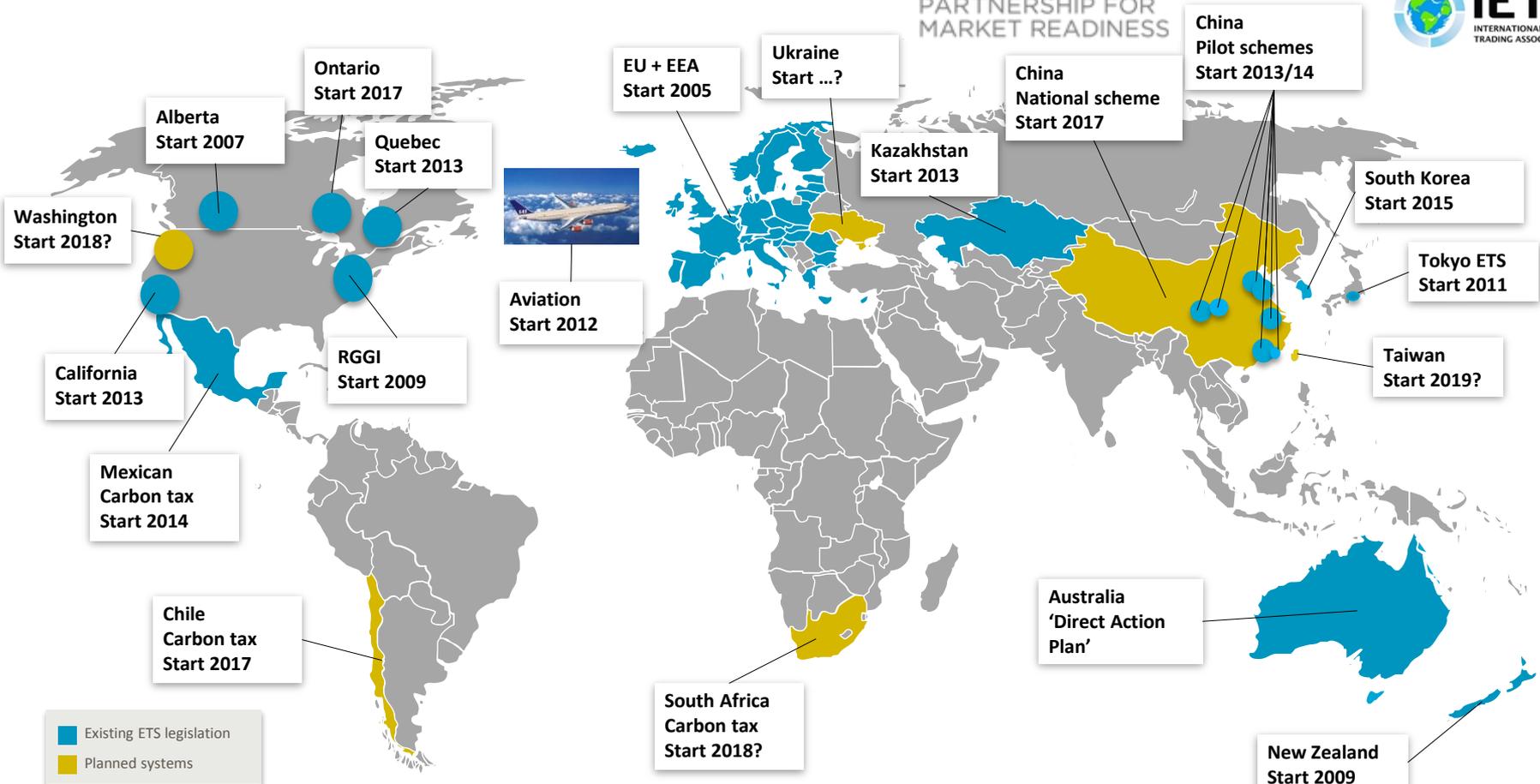


# Global Carbon Markets



PARTNERSHIP FOR MARKET READINESS

Business Partnership for Market Readiness



■ Existing ETS legislation  
■ Planned systems



**THANK YOU**



**Statkraft**  
PURE ENERGY

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