



*Pros and Cons of*  
**GLOBAL VS. UNILATERAL  
EMISSIONS TRADING**

*Presented by:*

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# Combined expertise in aviation and climate change

## SH&E

- ◆ **Founded in 1963, SH&E is the world's largest consulting firm specialising in commercial aviation**
- ◆ **Located in the US and the UK, its 100+ staff have provided consulting, strategic planning and technical services across the aviation industry, including:**
  - Airlines
  - Airports
  - Financial Institutions / Investors
  - Government agencies
  - Airframe and engine manufacturers
- ◆ **In 2007, SH&E joined ICF**

## ICF INTERNATIONAL

- ◆ **ICF is a leading international management, technology, and policy consulting firm**
- ◆ **Climate change has been a core competence since the mid-1980s**
  - ICF's climate change team is composed of more than 300 experts
  - Clients include several national governments, international agencies, and more than 60 FT500 companies
- ◆ **ICF has extensive experience providing climate strategy services to the Air Transport sector**

## International Climate Policy: Post 2012

- ◆ The future of the international climate regime post-Kyoto is currently under negotiation.
- ◆ The objective is to reach an international agreement at the Copenhagen conference in December 2009
- ◆ The main challenge is to overcome the difference in views regarding the implications of the principle of “differentiated but common responsibilities”

## *What Are the Implications for Aviation?*

- ◆ Compliance costs and increased legal, accounting, and administrative costs will cause schedule and fleet adjustments, change demand and have other impacts
- ◆ Potentially, a change in competitiveness if some carriers are subject to carbon constraints and others are not
- ◆ Likewise, environmental effectiveness could be compromised if some carriers are left outside of the system
- ◆ Uncertainties in enforcement – how will regulations be enforced? Poor enforcement could give one or two “bad actors” a cost advantage over the majority of carriers that comply with regulations

# Emissions Trading Principles: *Cap-and-Trade* Scheme

## Reevaluation

6. The cap can be reassessed and reset if needed

## Cap

1. An authority sets a limit on the amount of a pollutant that can be emitted

## Allowance Allocation

2. Emitters are issued, or buy at auction, emission permits representing the right to emit a specific pollutant amount

## Verification & Enforcement

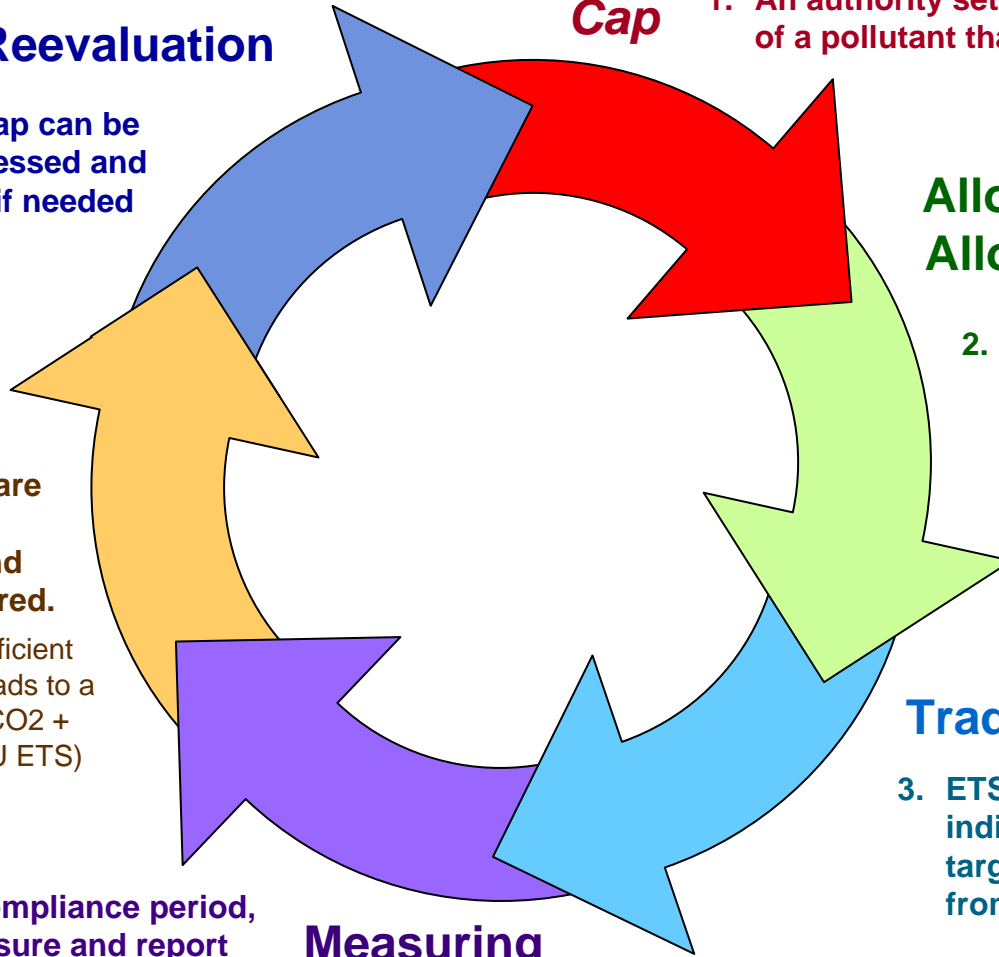
5. Reported emissions are verified by a third independent party and permits are surrendered.  
\* Failure to surrender sufficient number of allowances leads to a financial penalty (€100/tCO<sub>2</sub> + missing allowances in EU ETS)

## Trade

3. ETS operators exceeding individual allowed emissions targets can buy allowances from 'greener' ones

## Measuring & Reporting

4. At the end of the compliance period, ETS operators measure and report their emissions, and surrender an equivalent number of permits.



# Aviation Covered in EU and US Schemes

## *EU ETS*

- ◆ **Scope: All EU arriving/departing flights from 2012**
- ◆ **Cap: based on average 2004-2006 emissions**
  - 2012 cap: 97% of baseline
  - 2013 onwards: 95% of baseline
- ◆ **Auctioning: 15% of allowances to be auctioned off**
- ◆ **Limit on use of International Credits:**
  - Up to 15% of emissions in 2012;  
Up to 1.5% of emissions in 2013-2020
- ◆ **Revision scheduled in 2014: cap, auctioning...**

## *U.S. Waxman/Markey Bill*

- ◆ **Aviation emissions addressed indirectly via upstream cap on fuel producers**
- ◆ **Airlines will not receive free distribution of allowances and thus will have to pay the full carbon cost**

### *Cost Comparison*

#### **EU ETS:**

**\$1.8 to \$2.8 billion in 2012**

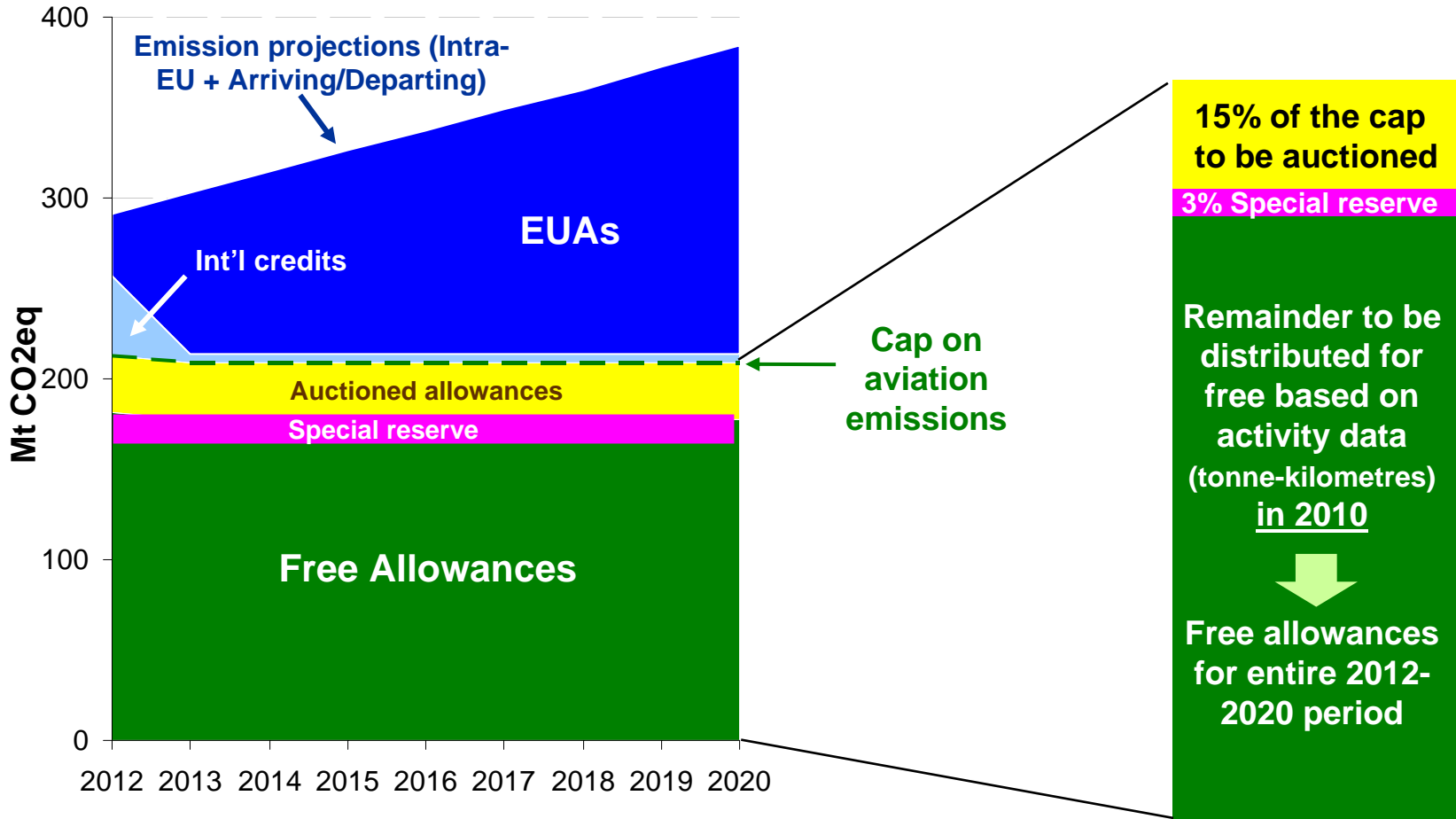
**Rising to \$9.1 to \$18.3 billion by 2020**

#### **Waxman/Markey:**

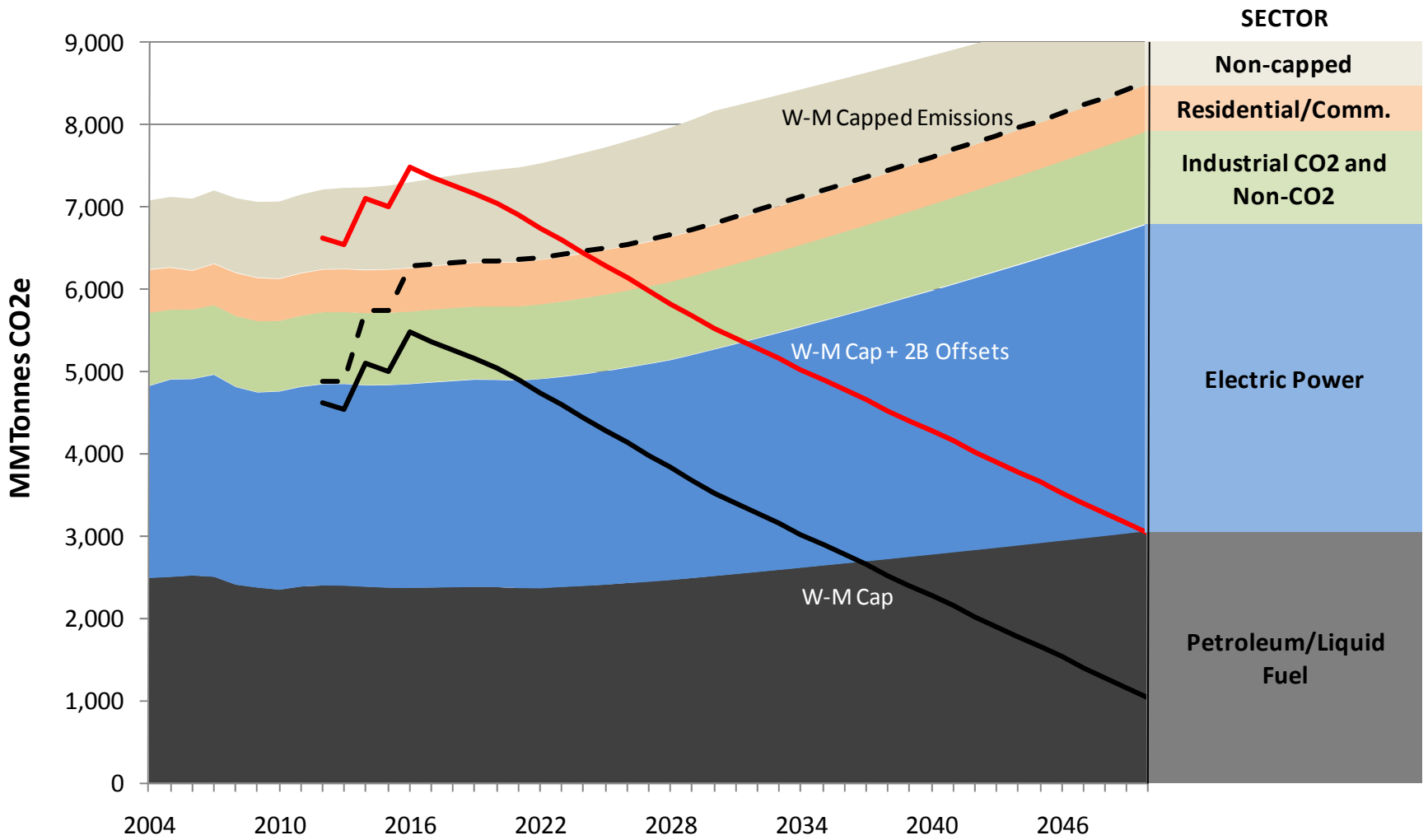
**\$5.0 billion in 2012**

**Increasing to \$11 billion in 2020**

# Distribution of free allowances & auctioning Under EU ETS



# Waxman/Markey Cap and Offsets



# Key goals for an ETS covering international aviation

- 1. Minimize administrative and transactions costs for carriers**
- 2. Promote economic efficiency**
- 3. Preserve competitiveness between carriers and between aviation and other modes**
- 4. Be effective at achieving environmental goals**

# Administrative and transactions costs

## *Multiple Trading Regimes*

- ◆ Need to know requirements of multiple trading systems
- ◆ Need to have access to and familiarity with traded instruments under each system
- ◆ Could require different sets of accounting or other record keeping systems

## *Single International Regime*

- ◆ All participants must learn a single system
- ◆ All participants adhere to the same set of rules
- ◆ All participants will only need access to the instruments used in international regime



*Least Cost System*

# Economic efficiency

## *Multiple Trading Regimes*

- ◆ **EU ETS and proposed US regimes differ significantly in approach to aviation emissions**
  - Waxman-Markey proposes upstream system that increases the cost of all fuels
  - EU ETS sets target specifically for aviation
- ◆ **No reason to expect costs per MtCO<sub>2</sub> to equalize across trading systems**

## *Single International Regime*

- ◆ **Efficiency will depend in part on coverage**
  - i.e., how common but differentiated responsibilities is handled
- ◆ **One set of requirements for all those covered by the regime would mean that all participants likely to face the same price for CO<sub>2</sub>**



***Likely the More Efficient System***

# Competitiveness

## *Multiple Trading Regimes*

- ◆ Presents opportunities for governments/regional authorities to favor own carriers over others
- ◆ Based on EU ETS and U.S. proposals appears more likely that all carriers operating in these markets will be treated equally
  - i.e., common but differentiated responsibilities is not a priority under either the US or EU approaches

## *Single International Regime*

- ◆ Likely to have a system that is based on common but differentiated responsibilities.
- ◆ Unclear whether such a system can be designed that will avoid distorting competition in existing markets



***Unclear Which Approach is Superior***

# Environmental objectives

## *Multiple Trading Regimes*

- ◆ Each region/country can impose and enforce its own unique set of obligations and its own unique set of compliance rules.
- ◆ Ability to enforce obligations might be key issue in whether environmental objectives are met
- ◆ Very likely that individual states/regions will have the capacity and inclination to enforce their own environmental objectives

 ***More Likely to Achieve Environment Objectives***

## *Single International Regime*

- ◆ Enforcement is an issue that is especially difficult in international agreements
- ◆ Requires countries/regions to surrender some measure of sovereignty over their carriers
- ◆ Without effective enforcement, if a few carriers do not “play by the rules,” the environmental benefits of the trading regime will not be realized and the majority of carriers that do comply with their requirements will be at a disadvantage to the few that do not.

## Concluding remarks

- ◆ **Greenhouse gas mitigation is one of the most complex and potentially costly challenges facing the aviation industry.**
- ◆ **A single comprehensive emissions trading regime offers clear advantages in terms of minimizing administrative costs and avoiding potential impacts on competitiveness.**
- ◆ **However, the enforcement issues must be resolved or a single international trading system could fail to generate the expected environmental benefits.**

**Thank You for Your Attention!**

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