The EUETS Market Stability Reserve

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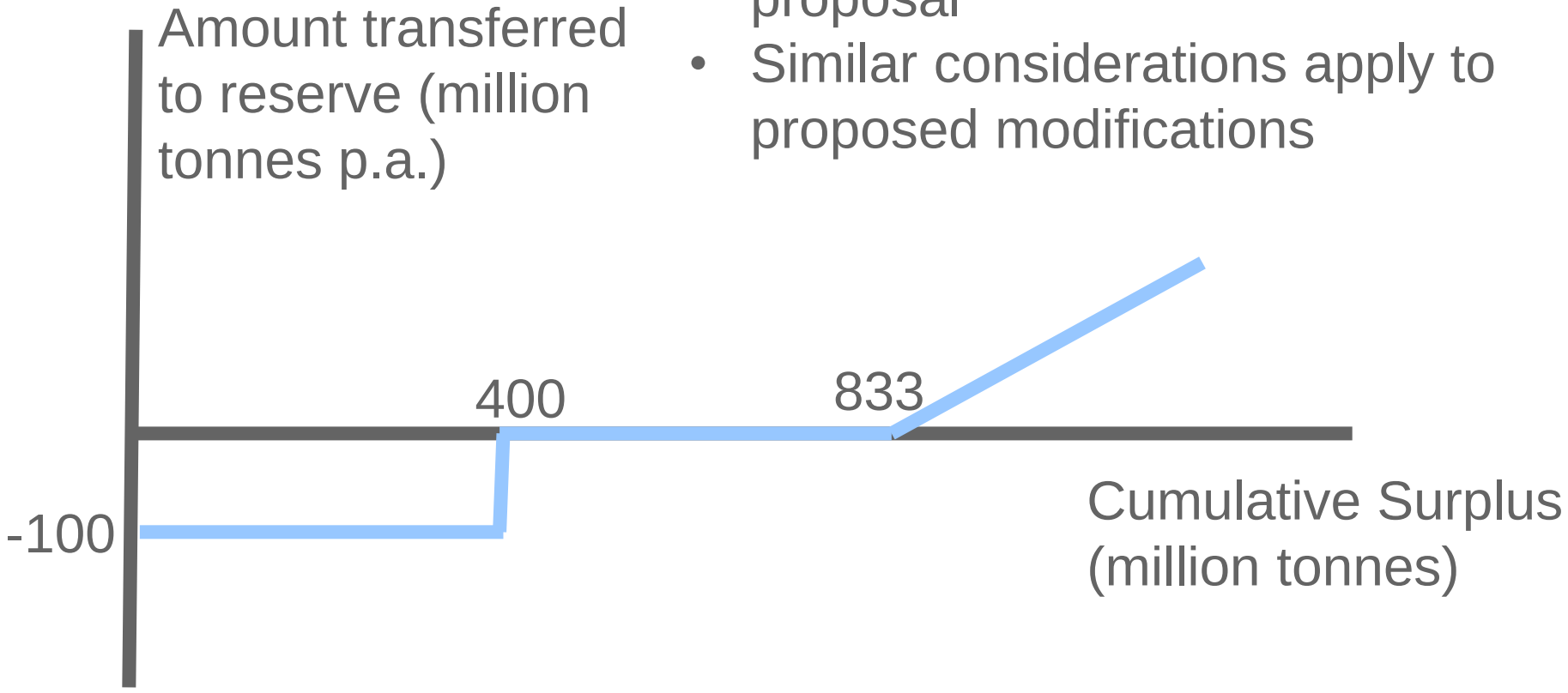
Allowances flow to and from MSR depending on cumulative surplus

- Analysis here is of the Commission proposal
- Similar considerations apply to proposed modifications



Some Assumptions (1)

Promising approaches to EUETS reform will not be adopted because they are politically intractable

- Cancelling allowances
- Price floors (and ceilings)
- Tighter 2030 cap (may be some potential to rebalance from non-traded sector)

… So analysis focusses only on the MSR

Some Assumptions (2)

MSR has no effect on future caps, so no environmental benefits

MSR must be justified as increasing the economic efficiency with which the cap is met

- arguments can be made that it may increase or decrease future caps in practice, but these are inconclusive

- need to assume that markets are intertemporally inefficient to generate benefits from MSR
- dynamic efficiency gains?
- any benefits tend to be post 2030, so uncertainties are inevitably large

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A simulation model looks at whether forcing banking increases economic efficiency

Inputs are:

- cap (allowance supply)
- demand for allowances (depends on abatement costs)
- discount rate

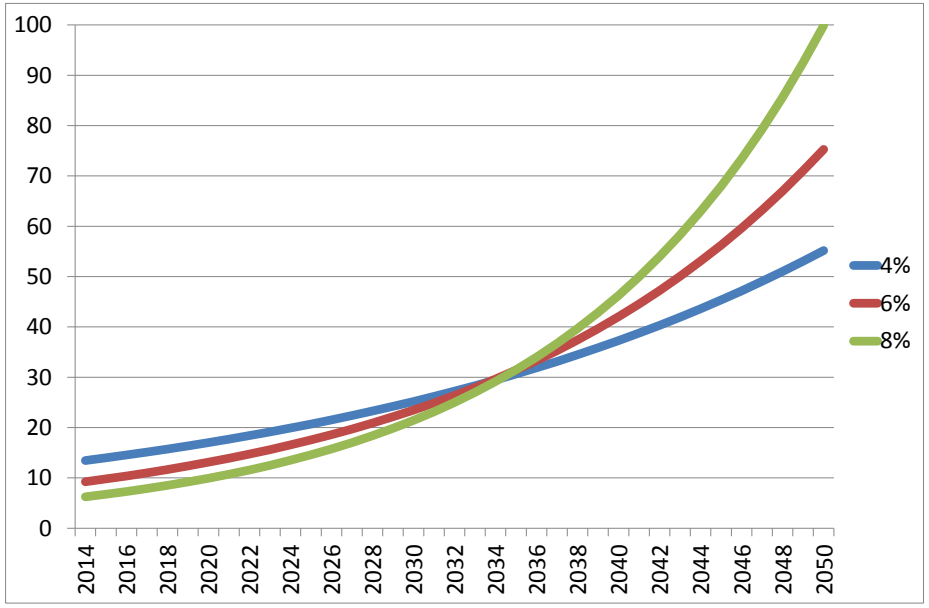
Political risk/short termism is represented by an increased discount rate (future modelling would use a distribution)

Solve for market clearing price to 2050 - compare price tracks with and without MSR

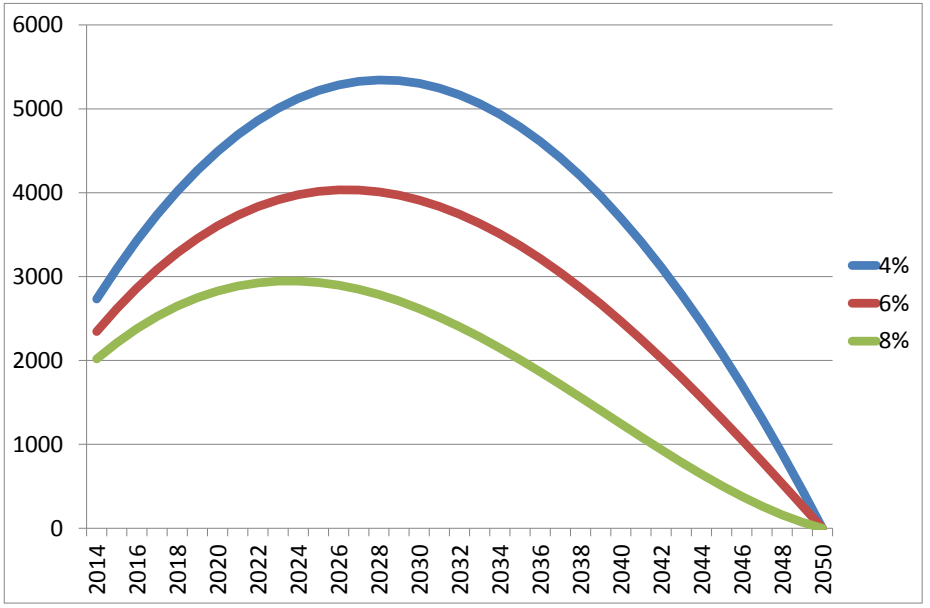
- Lower discounted average price used as a simple measure of increased efficiency
- More comprehensive measures await further modelling

A surplus of banked allowances and/or low initial prices are normal features of a market

Prices increase less rapidly at lower discount rates



Optimal return rate may be higher than MSR allows



Results from stylised analytical model – magnitudes are illustrative only

Quadratic MACC assumed

Modelling indicates gains or losses are possible depending on parameter choices

Effect of MSR can change in magnitude and direction depending on the level *over now to 2050 and within reasonable ranges* of:

- Premium in discount rate
- Slope and curvature of abatement cost curve
- Underlying growth/reduction of emissions taking account of other policies
- Technological progress and affect on abatement costs

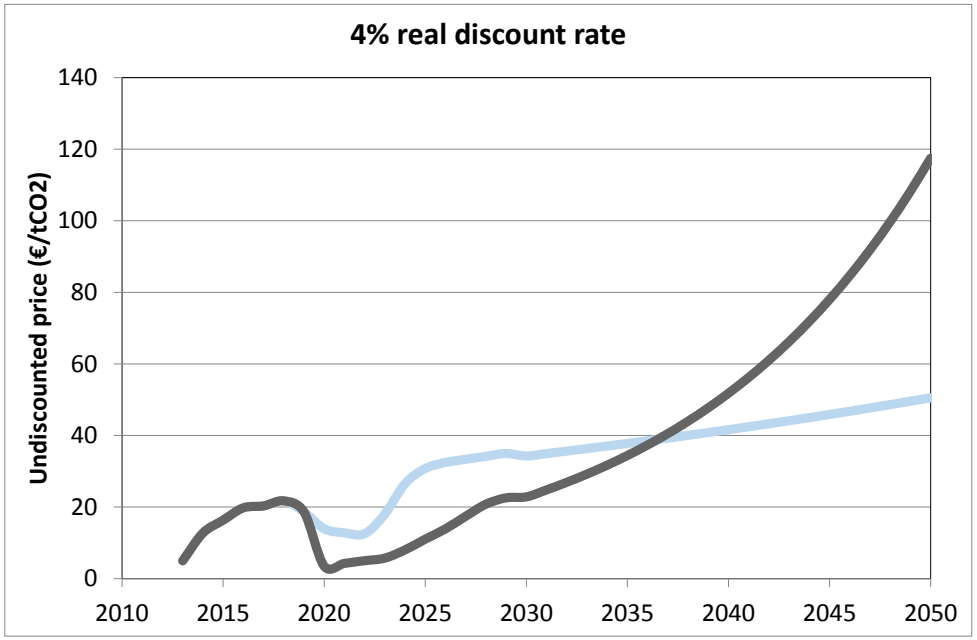
Not clear that current prices and surplus are inconsistent with an efficient market at commercial discount rates *given the likely cap* – though they are below levels efficiently signalling damage (price is c.€6.5/tCO_2 not c.€1/tCO_2 found at end of Phase 1)

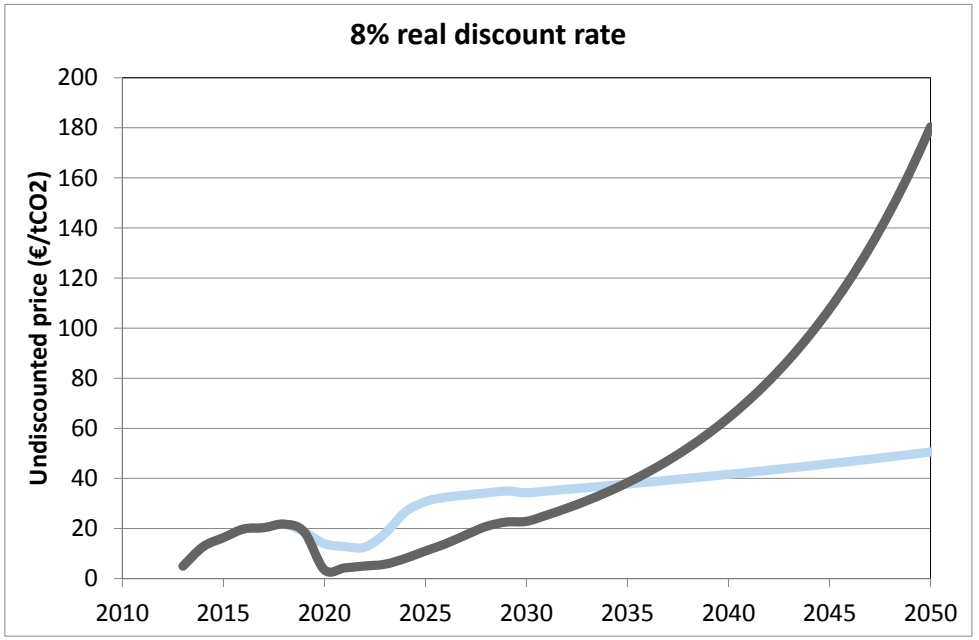
Preliminary modelling suggests effects are generally small in either direction

- Rates of escalation of price (return on holding EUAs) appear more consistent with commercial than societal discount rates (e.g. 10% p.a.)
- Model only solves for zero reserve by 2050 with rate of price escalation declining over time – decreased political risk?
- Price tracks typically vary by <+/- €5/tCO_2 for a few years, so effect on average price to 2050 is small (typically <+/- €1/tCO_2), with slight price increases from MSR appearing more common
- Effect may be zero in some cases as market anticipates return of allowances (compare backloading)

Other modelling has found larger price increases to 2030, which require large future price reductions

With large short term price increases prices would otherwise need to go very high after 2030 to lead to lower discounted average (levelised) prices, especially at commercial discount rates

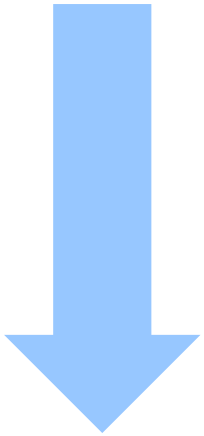




Modelled prices to 2030 from ICIS Tschach Solutions

If abatement costs show an anticipated fall the MSR can generate clear inefficiencies

Marginal abatement costs late 2020s are e.g. €30/t



Falling gas prices reduce marginal abatement costs late 2030s toe.g. €30/t

Would be efficient to use allowances in late 2020s but stuck in reserve
Cost is potentially several billion dollars

There are other issues which can affect outcomes

- Scale and rigidity of power sector hedging demand
- Possibility of response to price changes (revised 29a provisions)
- Choice of parameters and start date
- Dynamic effects on carbon leakage
- Whether MSR affects investment or mainly moves fuel switching and similar actions
- Whether auctions for future years are introduced

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Conclusions

- MSR under-researched with little evidence yet of clear, large scale benefits or losses, assuming total cap is unaffected

  - if future caps tightened/loosened there would likely be a clear net benefit/loss

- Thresholds for set-aside and return set at larger surpluses and faster return rate would reduce risks but also reduce effects – can any fixed parameters be robust/optimal?
- Revised 29a provisions may help mitigate risk of additional costs
- Greatest benefit may be political – sign of commitment to EUETS? But could e.g. price spike damage ETS?
- Are there better ways of achieving confidence in the EUETS?