

Student's Name

Professor's Name

Course Name/Code

Date

Economics Extended Essay

Title: Carbon Pricing and Emissions Reduction in the European Union

Research Question: To what extent has the EU Emissions Trading System reduced carbon dioxide emissions in the European power sector between 2005 and 2020?

Subject: Economics

Citation style: MLA

I. INTRODUCTION

A. Context: EU climate targets, ETS design and history since 2005

B. Research question: restated

C. Thesis: The ETS reduced emissions in the power sector but underperformed during Phase 1 and 2 due to over-allocation of permits. Phase 3 reforms significantly improved effectiveness.

II. HOW THE ETS WORKS: MECHANISM AND DESIGN

A. Claim: Cap-and-trade design creates a price signal that should incentivise abatement, but only if the cap is binding

B. Evidence: European Commission ETS design documentation, Ellerman & Buchner (2007)

C. Analysis: Establishes the theoretical basis for expecting emissions reductions and the condition under which it fails

III. PHASE 1 AND 2 PERFORMANCE (2005-2012): WHY IT UNDERDELIVERED

A. Claim: Over-allocation of permits drove the carbon price to near zero; the ETS had no binding effect during these phases

B. Evidence: Carbon price data 2005-2012, Ellerman et al. (2010), European Environment Agency reports

C. Analysis: Explains the gap between design intent and outcome and links to the thesis's phase-specific argument

IV. PHASE 3 REFORMS AND IMPROVED OUTCOMES (2013-2020)

A. Claim: Auctioning replaced free allocation; the Market Stability Reserve tightened supply; emissions fell measurably

B. Evidence: EEA emissions data, Betz & Sato (2006), Marcu et al. (2017)

C. Analysis: Demonstrates the reform-outcome relationship and tests the causal claim in the thesis

V. ALTERNATIVE EXPLANATIONS: ECONOMIC DOWNTURN AND GAS PRICES

A. Claim: Part of the emissions reduction is attributable to the 2008 recession and the gas-for-coal switch, not the ETS alone

B. Evidence: IEA energy mix data, Eurostat GDP contraction figures

C. Analysis: Isolates the ETS effect from confounding variables, required for an honest causal argument

VI. CONCLUSION

A. Thesis restated: ETS reduced emissions, but effectiveness was phase-dependent; Phase 3 reforms were decisive

B. Summary: the argument

C. Implications: Lessons for carbon pricing design in other jurisdictions where binding caps and stable price signals matter