

Mercator Research Institute on  
Global Commons and Climate Change

# **Public Finance and the EU ETS: A Brief History and Implications of Potential Reform**

**Christian Flachsland**

*Workshop Closing the Carbon Price Gap: Public  
Finance and Climate Policy, 22-23 May, Berlin*

# Basics: Deriving Country-Level EU ETS Auction Revenue

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**Country  
EU ETS  
Revenue**

=

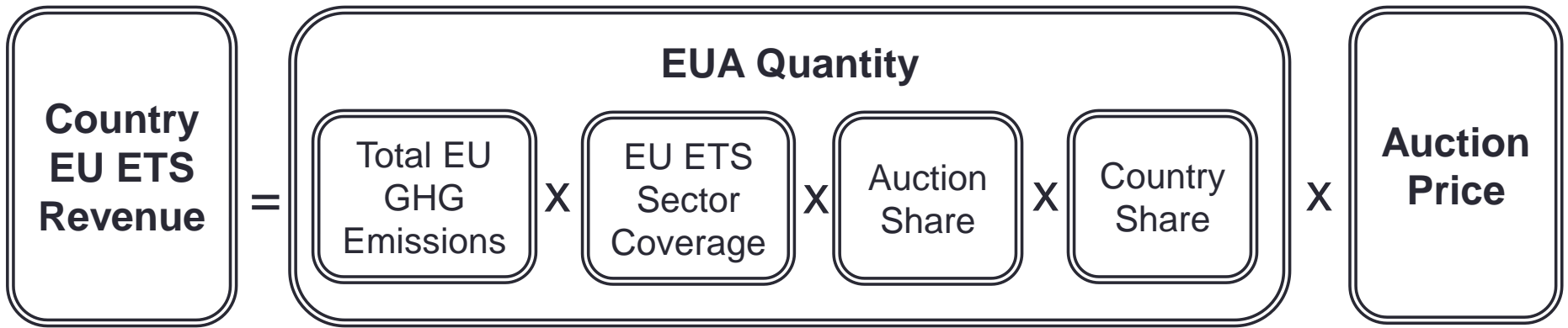
**EUA Quantity**

x

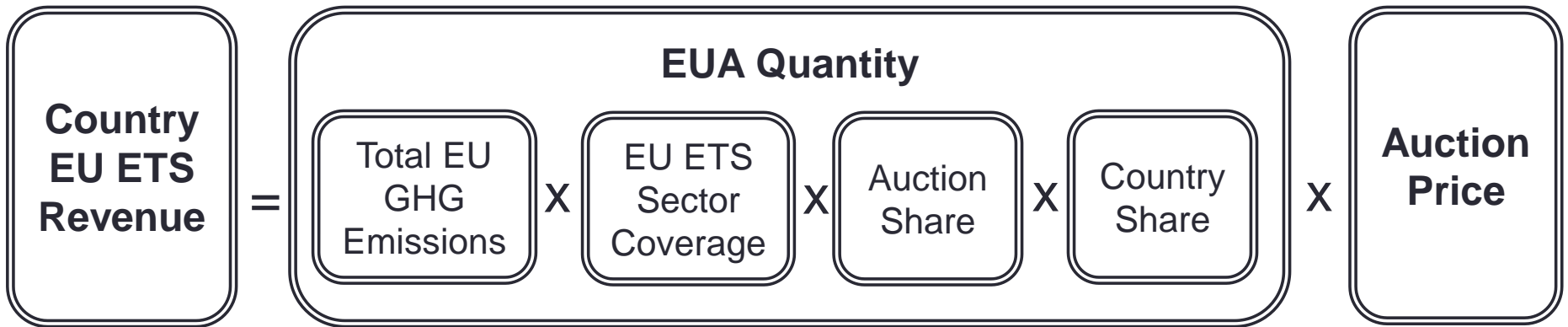
**Auction  
Price**

# Basics: Deriving Country-Level EU ETS Auction Revenue

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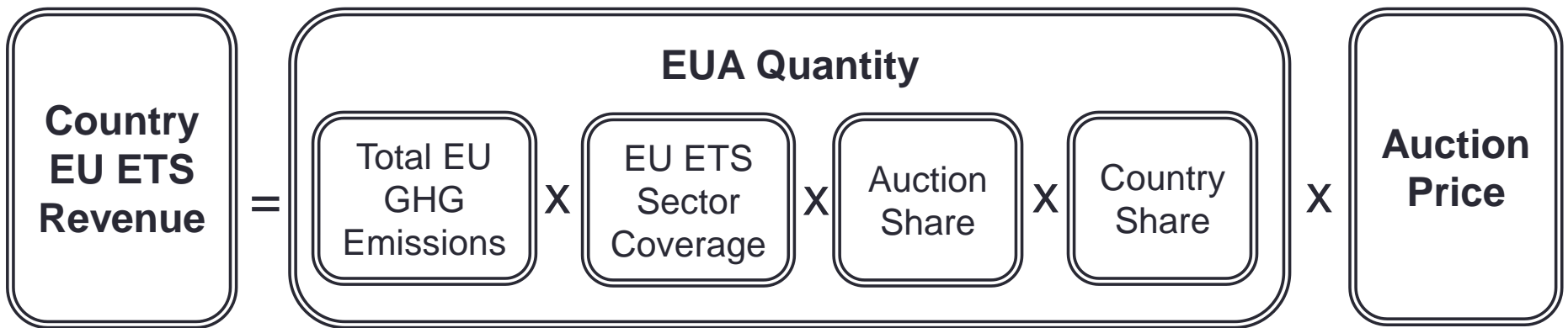
# Basics: Deriving Country-Level EU ETS Auction Revenue



Example Germany in 2013 (illustrative back-of-envelope): :

$$791 \text{ Mio } \text{€} = 4,5 \text{ Gt CO}_2\text{eq} \times 0,45 \times 0,4 \times 0.22 \times 4.44\text{€}$$

# Basics: Deriving Country-Level EU ETS Auction Revenue



Example Germany in 2013 (illustrative back-of-envelope):

$$791 \text{ Mio } \text{€} = 4,5 \text{ Gt CO}_2\text{eq} \times 0,45 \times 0,4 \times 0.22 \times 4.44\text{€}$$

Revenues Germany with a potential EU ETS Reform (Knopf et al. 2014):

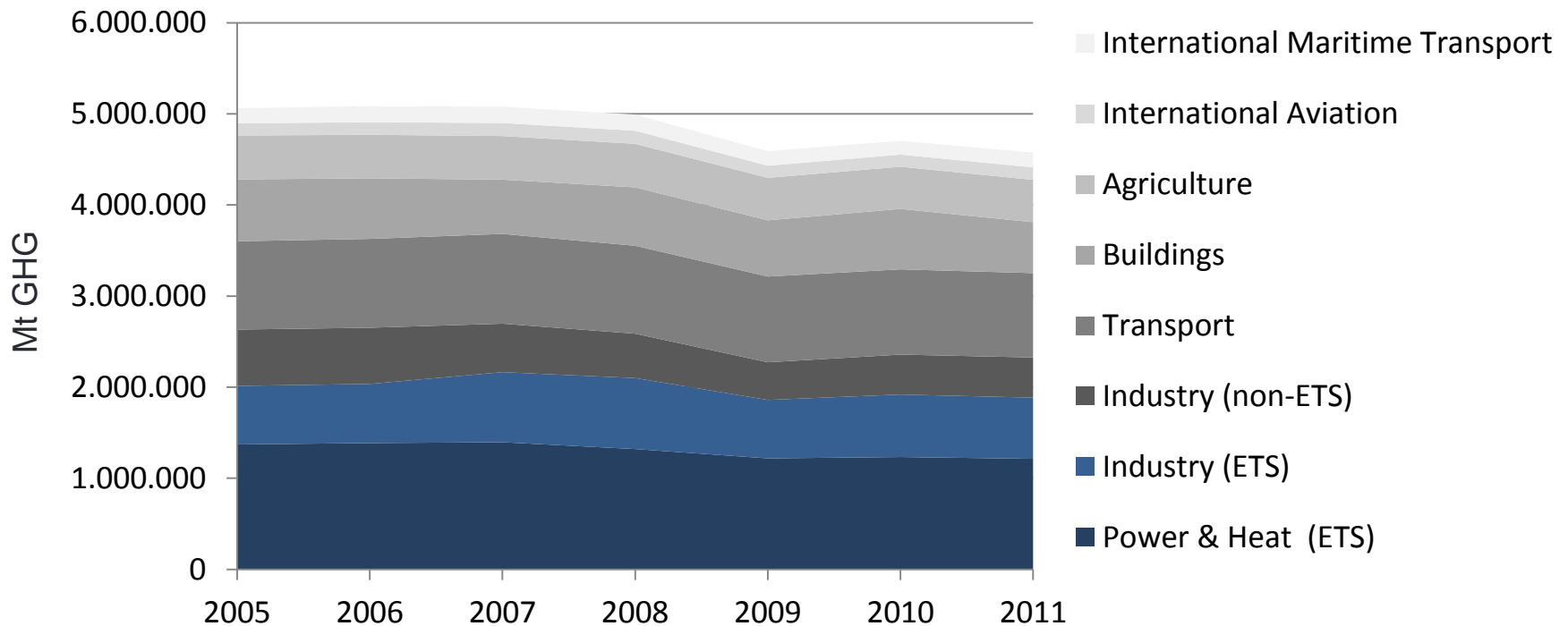
- 90% sector coverage
- 80% auctioning
- Price collar with minimum price starting at 20€

$$14.257 \text{ Mio.€} = 4,5 \text{ Gt CO}_2\text{eq} \times 0,9 \times 0,8 \times 0.22 \times 20\text{€}$$

# EU GHG Emissions and EU ETS Coverage Over Time

Cap in 2013 = 2.084 Mt CO<sub>2</sub>eq

~45% of Total EU GHG Emissions

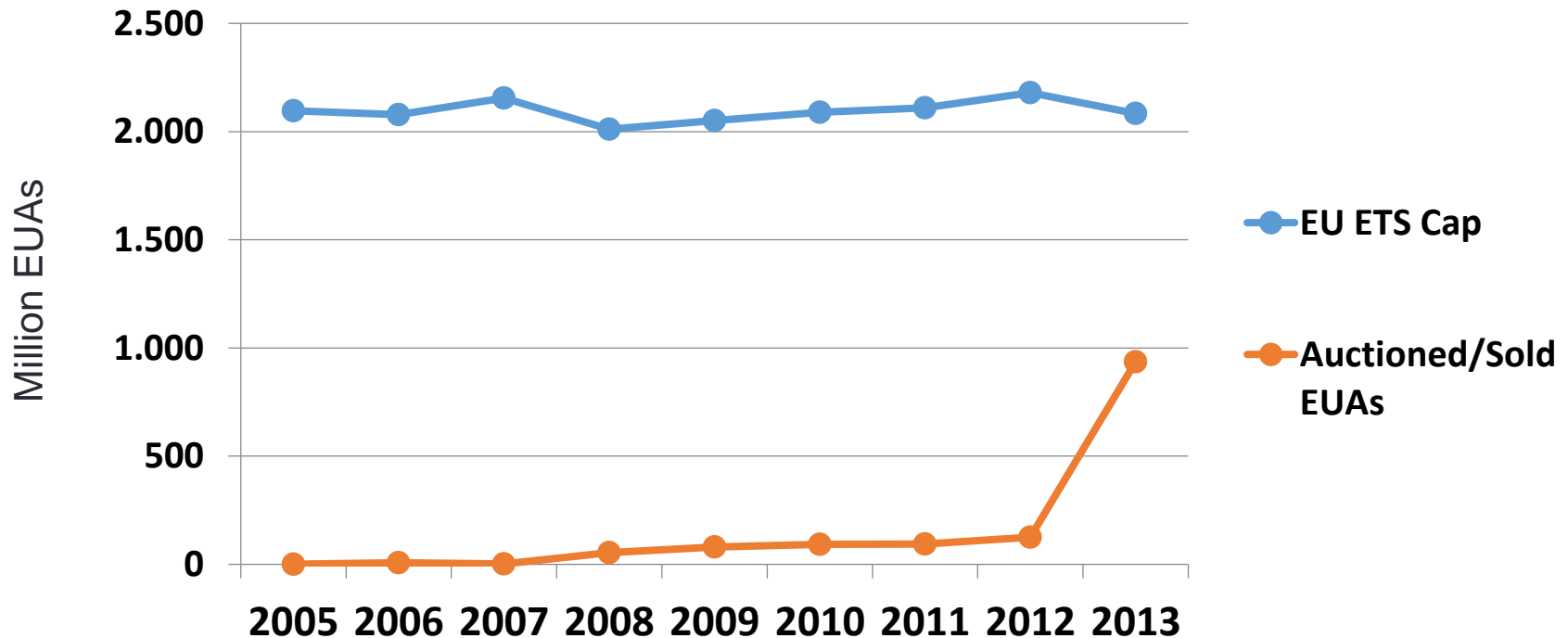


➤ **Increasing Sector Coverage to 90% to Ensure Cost Effectiveness of EU Climate Policy?**

Data: EEA EU ETS Viewer

# From Free Allocation to Auctioning

In 2013, about 40% of EU ETS Cap Auctioned

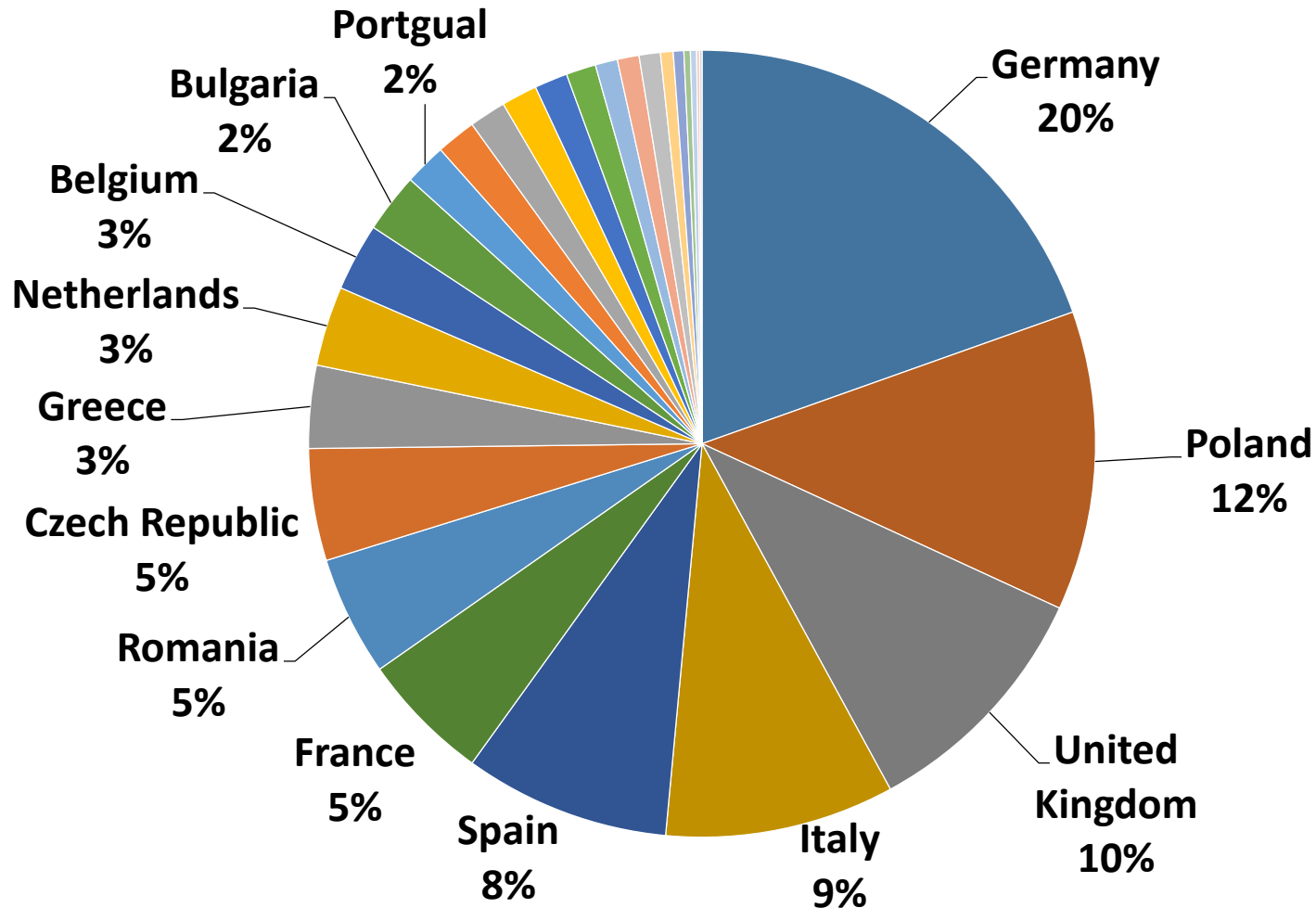


Data: EEA EU ETS Viewer

➤ **Raising Share of Auctioned Allowances to 80% to Eliminate Windfall Profits and Support Public Budgets?**

# Country Ownership in Auctioning Revenues

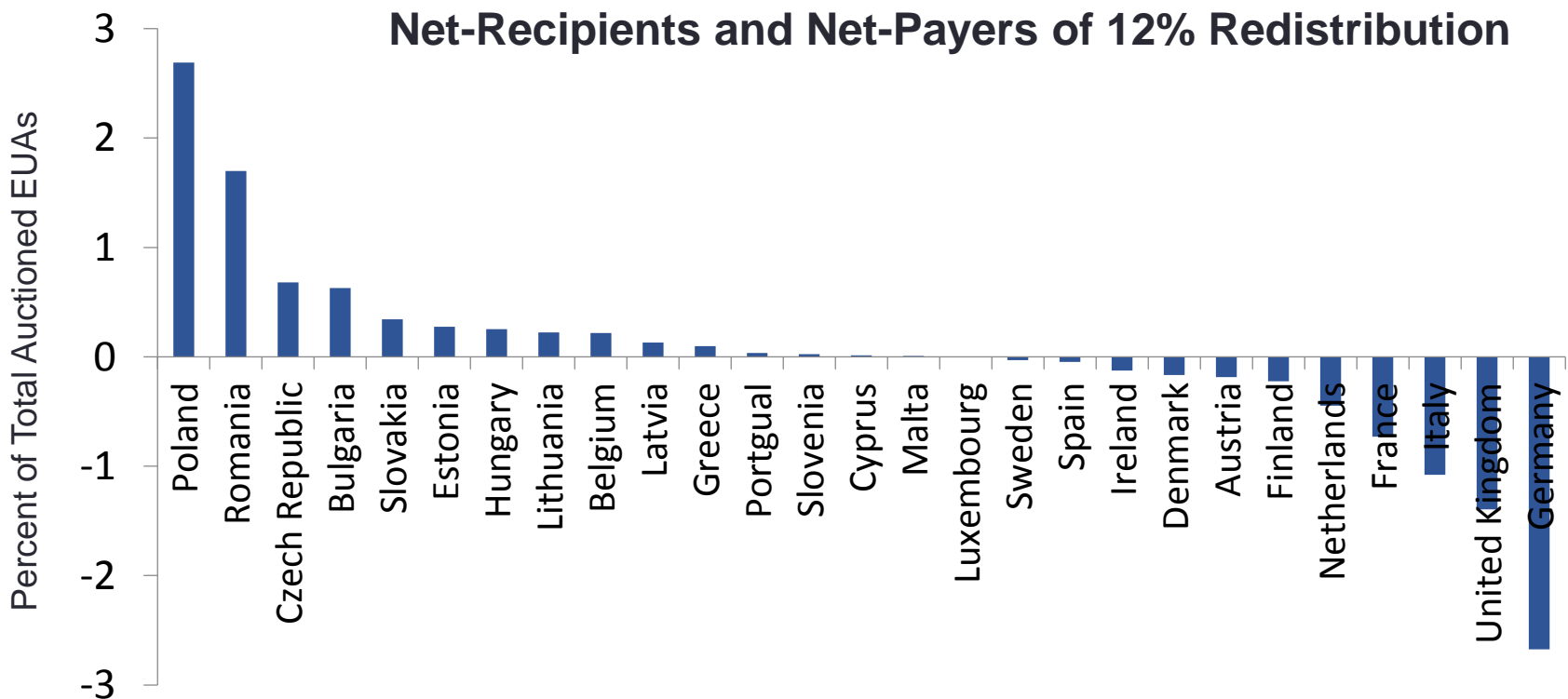
## 2013 Country Share in EUAs Eligible for Auctioning





# Country Ownership in Auctioning Revenues – Side Payments

- Distribution of Auction Shares: Grandfathering based on 2005-2007
- Adjusted by Redistributing 12% of Auctioned Allowances



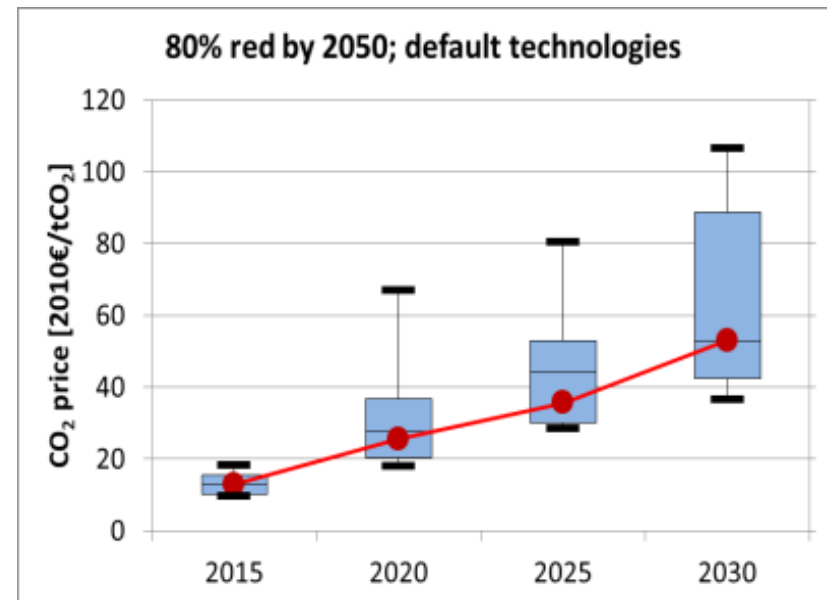
➤ **Revisit Distributional Adjustment to Enable EU Climate & Energy Package Reform?**

# EUA Price

## Historic Development of EUA 1-Year Forward Price 2005-2013



## EMF-28 Modeling of Future EUA Prices Compatible with EU 2050 Goals, 2015-2050



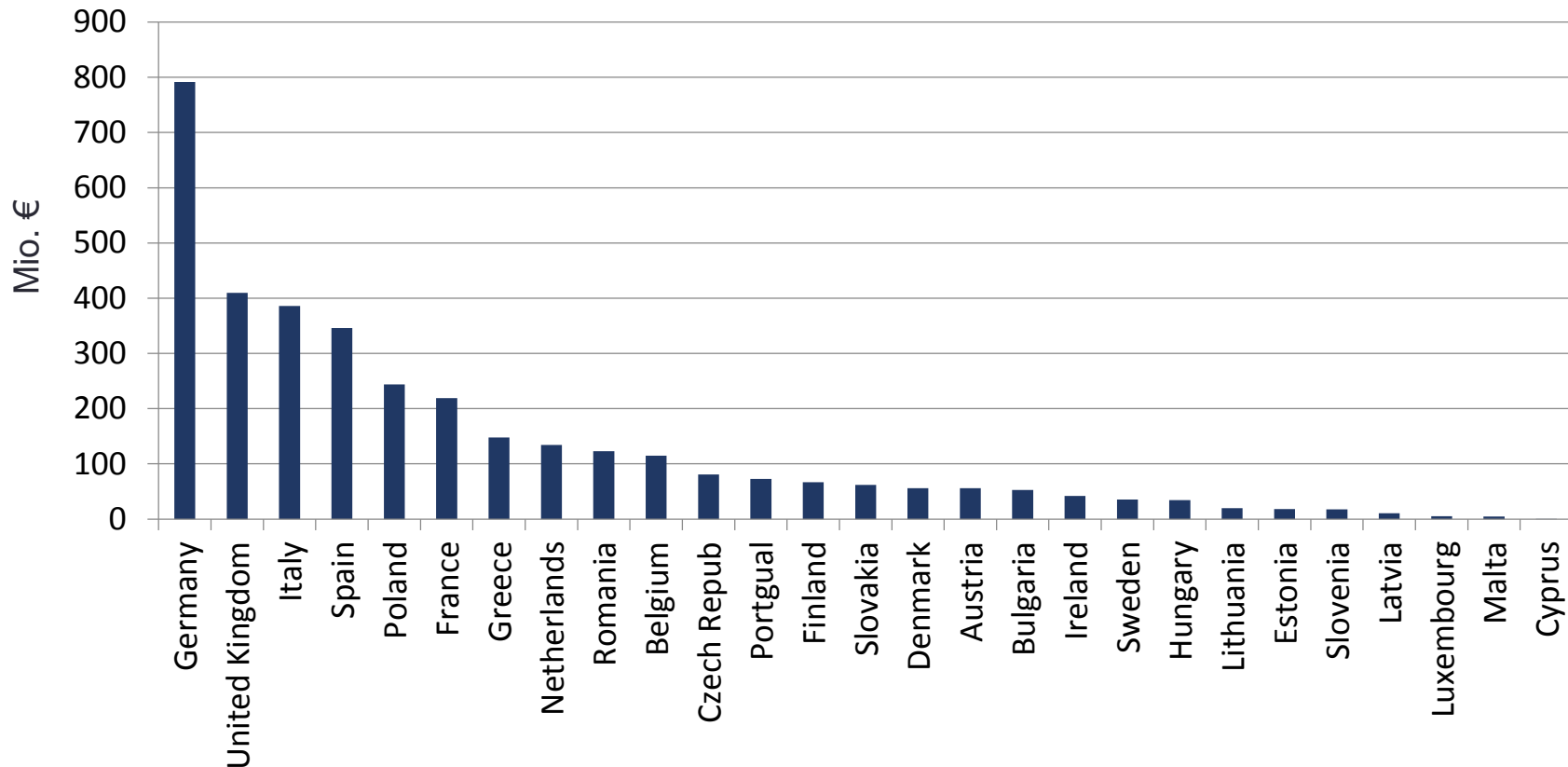
Kopf et al. 2013

- **Set a Rising EUA Price Collar with Minimum Price 20€ to Stabilize Expectations (Dynamic Cost Effectiveness) and Fiscal Revenues?**

# EU ETS Auction Revenues in 2013

- Total EU ETS Auctioning Revenue in 2013 was **€ 3,55 Billion**
- With indicated EU ETS Reform, Revenue would rise to **€ 64 Billion**

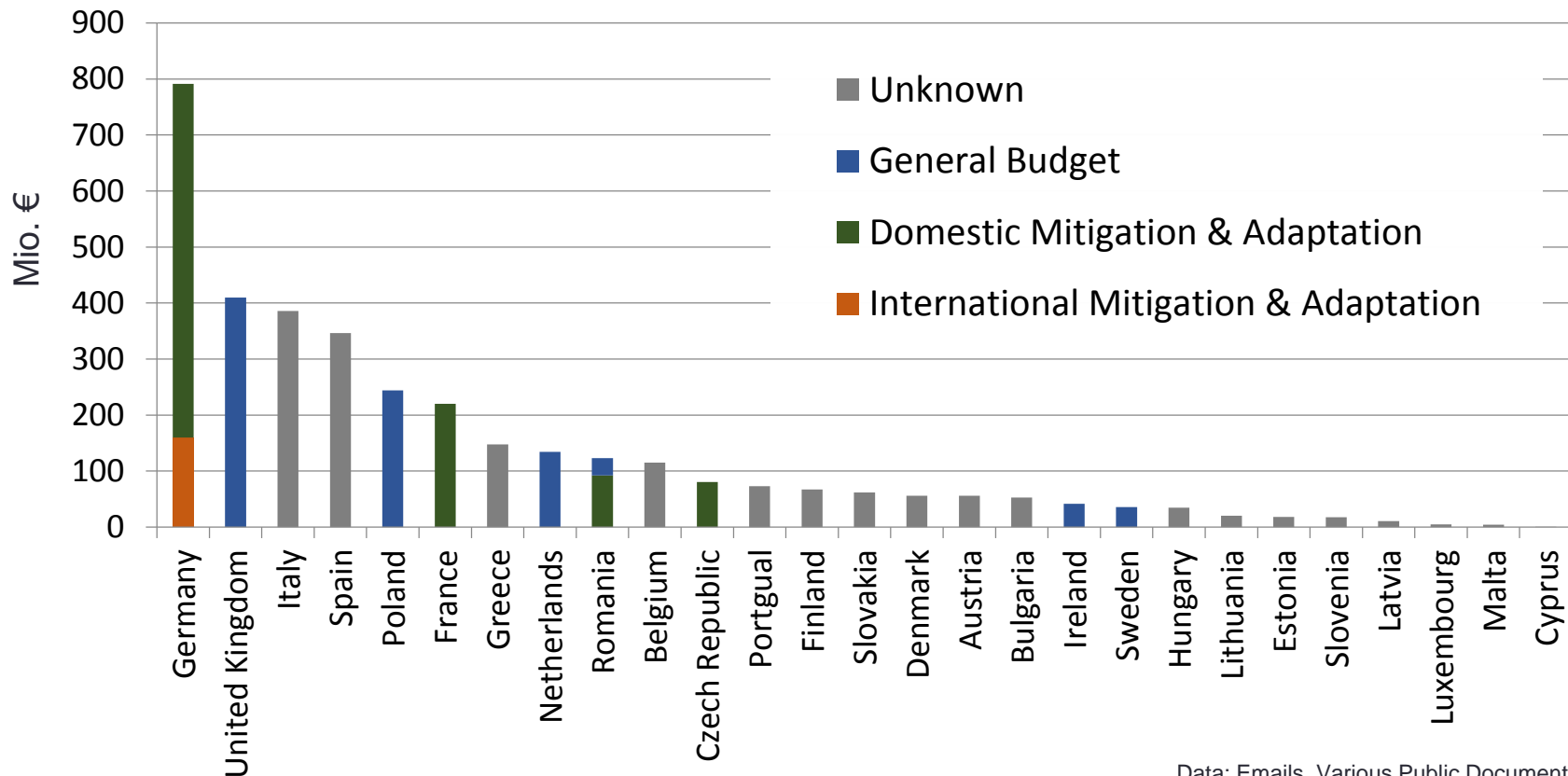
Year 2013 Country EU ETS Auctioning Revenues in Million €



# Country-Level Spending

- EU ETS Directive Recommends Spending more than 50% on Mitigation and Adaptation
- Data Should Improve in 2014 with Implementation of Reporting

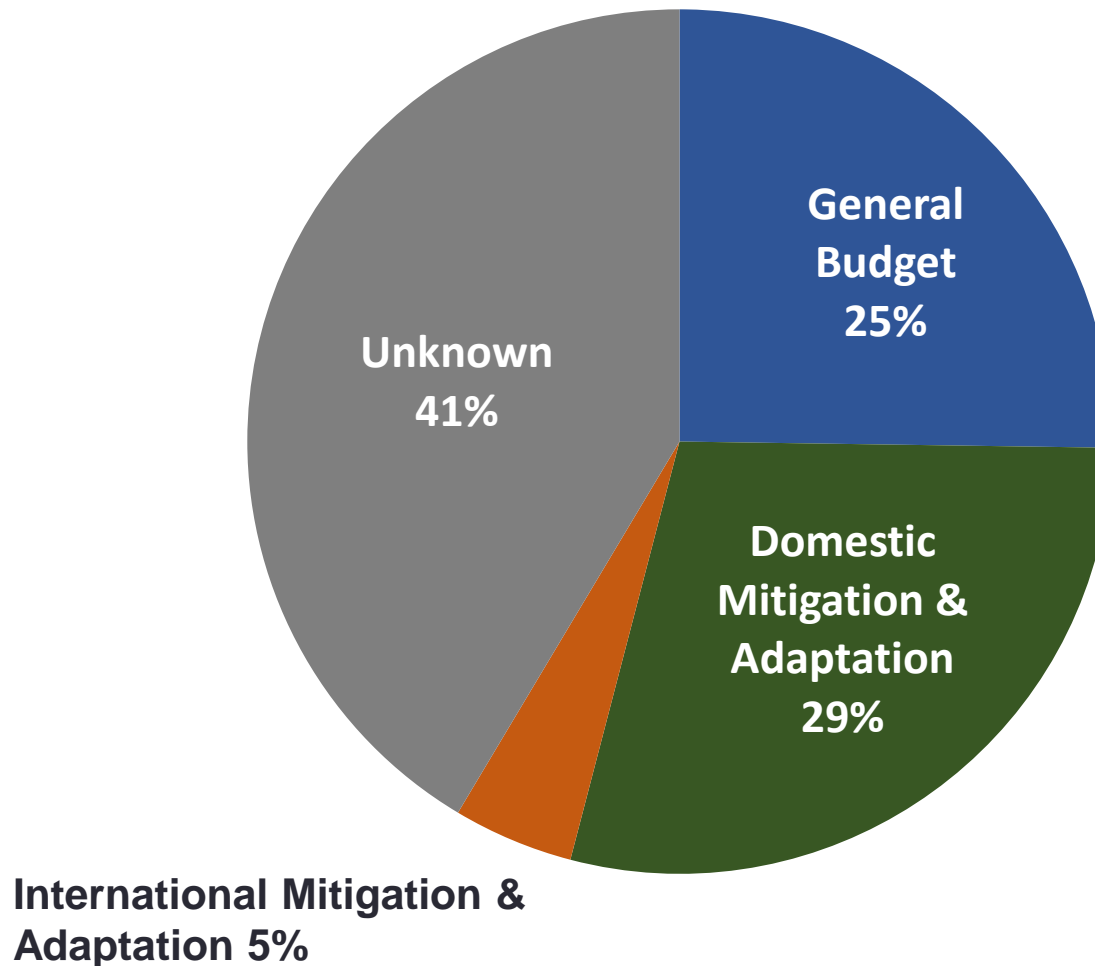
Year 2013 Country EU ETS Spending in Million €



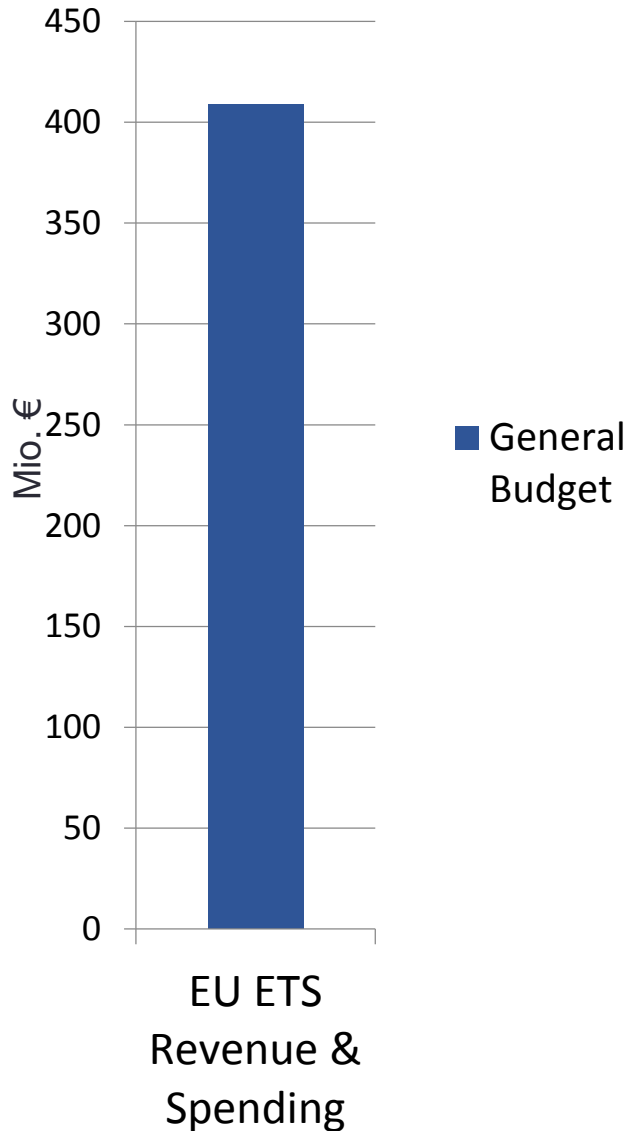
# EU Aggregate Spending

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- EU Aggregate Spending of €3,55bn Auction Revenues in 2013



# United Kingdom

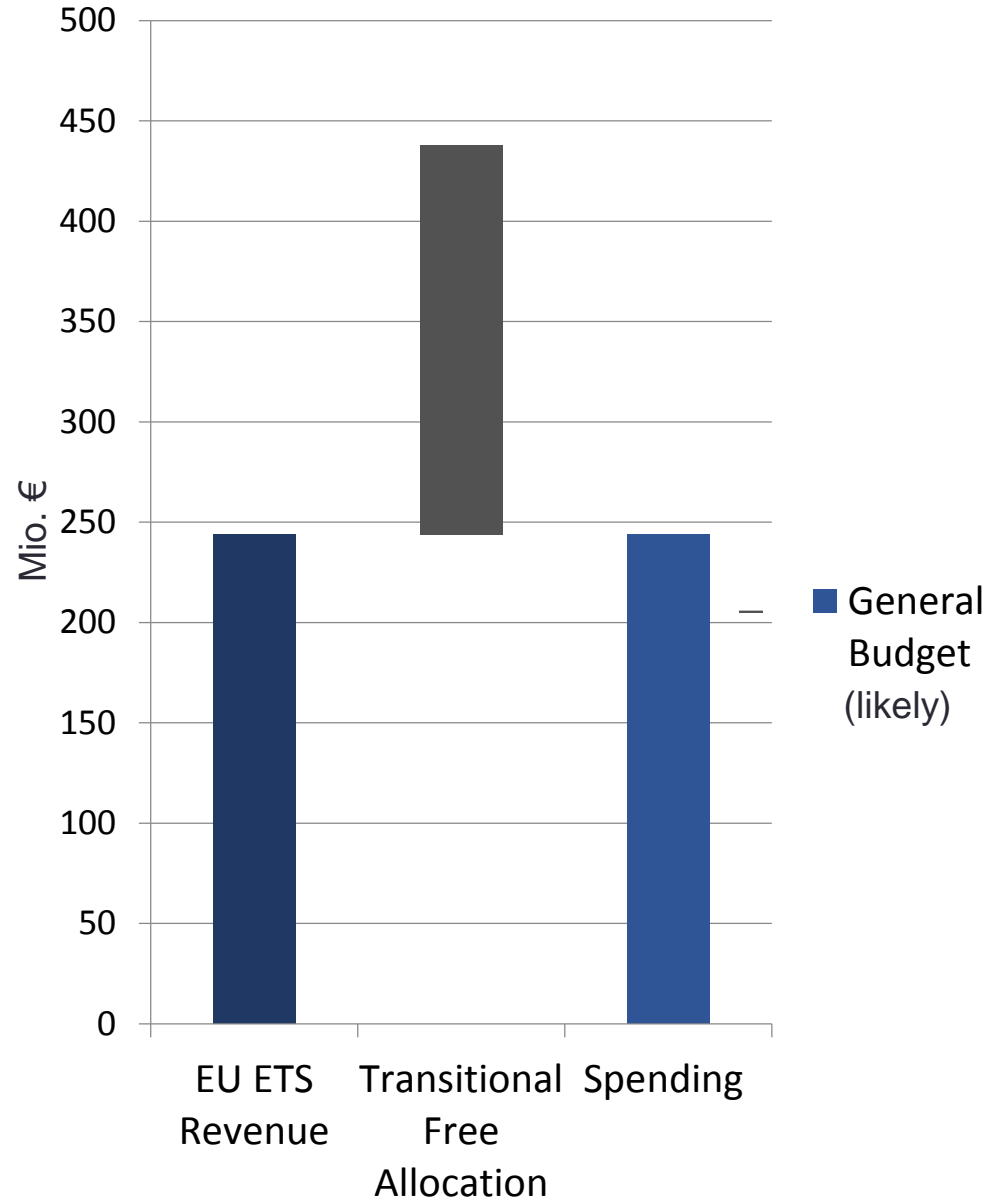


- All Revenues Allocated to Central Government Budget

	2013	EU ETS Reform
€ Revenue	0,4 bn	7.4 bn
Share of Central Govt. Budget	0,1%	0,9%

Data: EU Commission, OECD Database, Personal Communications

# Poland

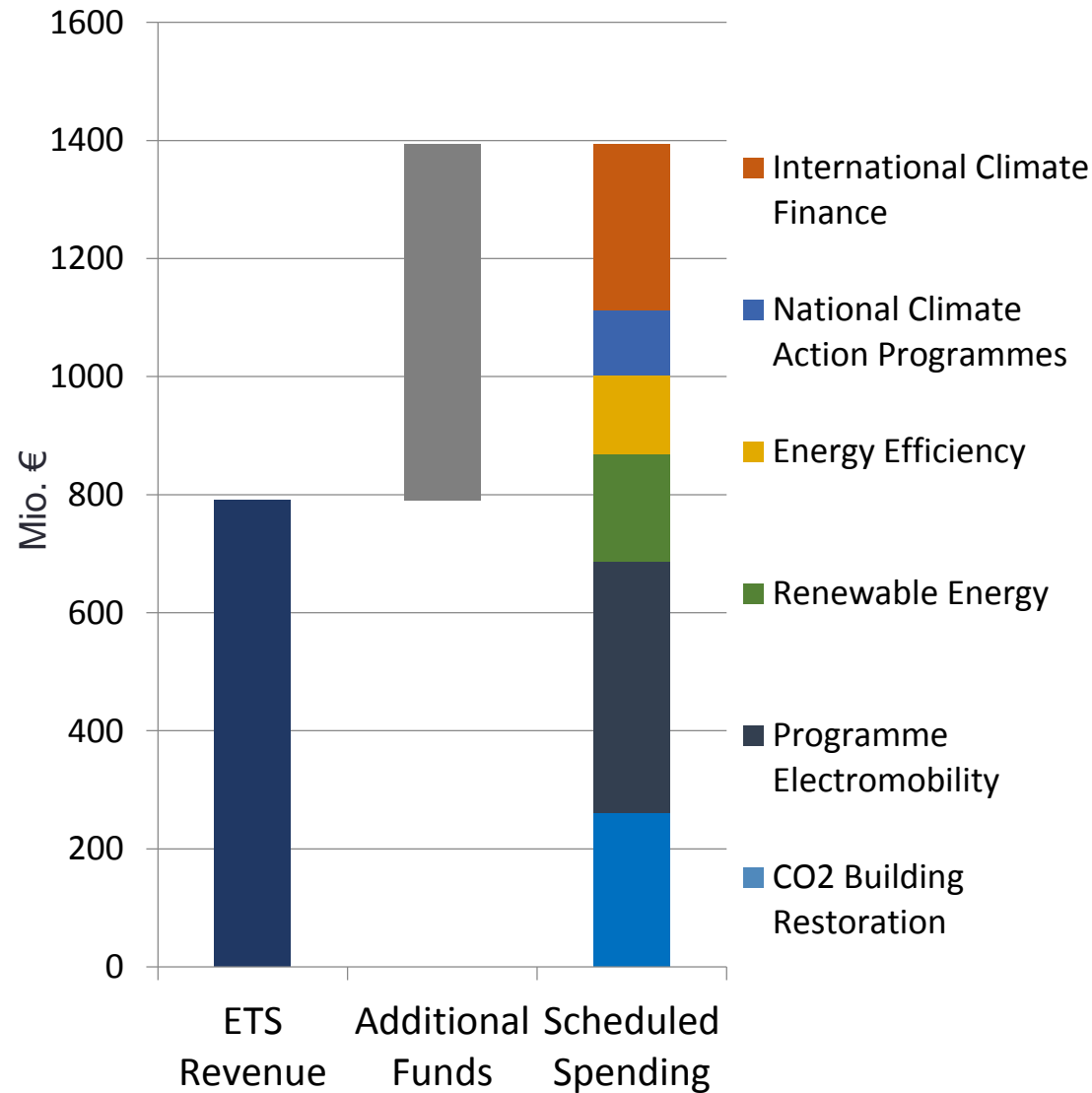


- Revenue: Poland Cashed in only ~55% of its Auctioning Share in Favor of Transitional Free Allocation to Utilities

	2013	EU ETS Reform
€ Revenue	0,2 bn	8 bn
Share of Central Govt. Budget	0,3%	8,9%

Data: EU Commission, OECD Database, Personal Communications

# Germany



[Preliminary Data]

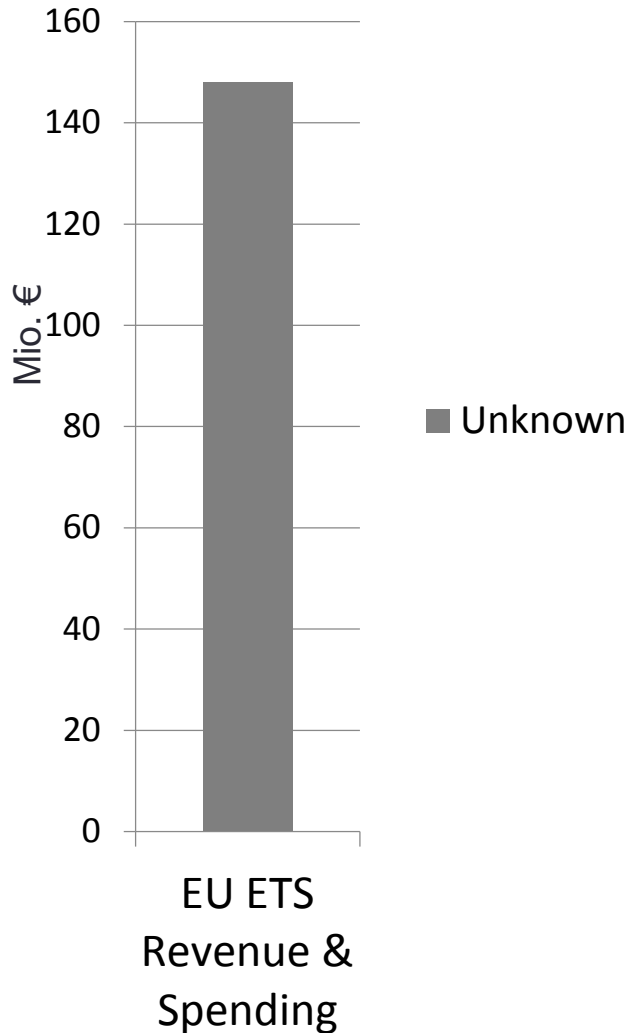
- All Revenues Spent on Climate-Related Projects
- Unexpectedly Low EUA Price necessitated Additional Public Funds to Finance scheduled Spending Programs

	2013	EU ETS Reform
€ Revenue	0,8 bn	14,3 bn
Share of Central Govt. Budget	0,2%	3,9%

Data: EU Commission, OECD Database, Esch 2013



# Greece



- EU ETS reform would add ~3 % to Greek Central Government Budget

	2013	EU ETS Reform
€ Revenue	0,15 bn	2,7 bn
Share of Central Govt. Budget	0,2%	3,4%

Data: EU Commission, OECD Database

# Complementarity of Climate and Fiscal Objectives in EU ETS Reform?

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- **Linking Climate and Fiscal Reform Rationales in the EU ETS Reform Discussion (Knopf et al. 2014)**
  - Expanding EU ETS Sector Coverage to 90%
  - Increasing Auctioning Shares to 80%
  - Introducing a Rising Price Collar with Minimum Price 20€
  - **Yields Total EU Revenues of ~64bn€ (Factor 18 of Year 2013 Revenue)**
- **Opposition can be Expected from Industries and Countries Reluctant to Implement More Ambitious Climate Policies**
- **Using EU ETS Reform for Financing Fiscal Consolidation as well as Green and non-Green Public Stimulus in Countries with Fiscal Challenges (Creutzig et al. 2014)**

# Contact

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**Dr. Christian Flachsland**

**Mercator Research Institute on**

**Global Commons and Climate Change gGmbH**

**Torgauer Str. 12–15 | 10829 Berlin | Germany**

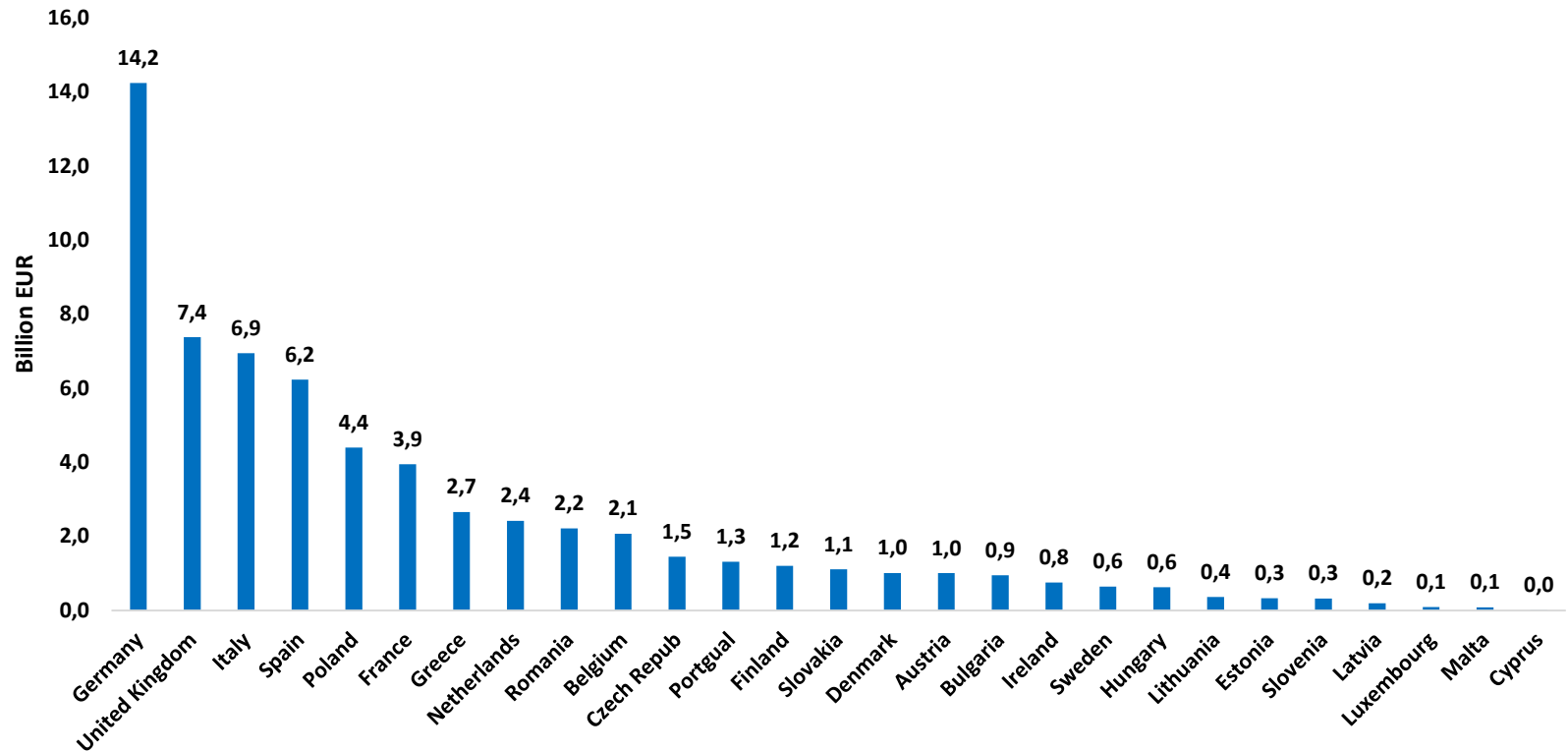
**tel**            **+49 (0) 30 338 55 37 - 246**

**mail**          **flachsland@mcc-berlin.net**

**web**           **www.mcc-berlin.net**

MCC was founded jointly by Stiftung Mercator and  
the Potsdam Institute for Climate Impact Research

# EU ETS Country Revenues with EU ETS Reform



\*Funds from Phasing Out Transitional Free Allowance Allocation not considered (relevant e.g. for Poland)