How well does the current EU climate policy mix perform?
A look at the non-ETS sector

Insights from the CECILIA2050 project

3rd European Environmental Evaluators Network Forum
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Funded by the European Union

Tackling the 2050 climate policy mix – the CECILIA2050 project

Choosing

Efficient

Combinations of Policy

Instruments for

Low-carbon development and

Innovation to

Achieve Europe's

2050 climate targets

Funded by the European Union

CECILIA 2050
OPTIMAL EU CLIMATE POLICY

Who we are: 10 partners from 8 countries

- **NL:** Institute of Environmental Sciences (CML) at Leiden University
- **NL:** Institute for Environmental Studies (IVM), VU Amsterdam
- **PL:** WOEE, Warsaw
- **CZ:** CUNI, Prague
- **IT:** University of Ferrara (UNIFE)
- **ES:** Basque Centre for Climate Change (BC3), Bilbao
- **F:** SMASH-CIRED, Paris
- **UK**: University College London
- **DE:** Institute of Economic Structures Research (GWS), Osnabrück
- **DE:** Ecologic Institute, Berlin



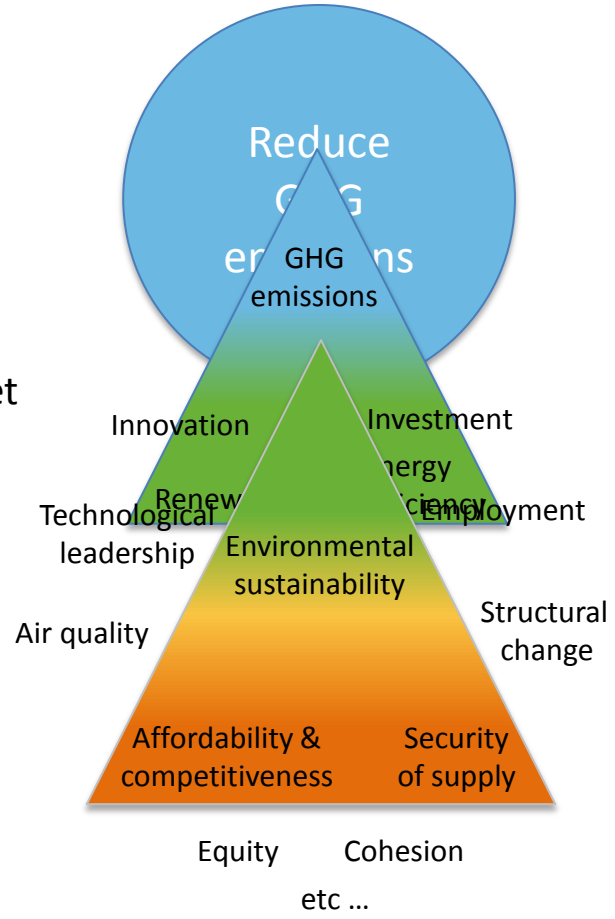


How has the current EU climate policy mix performed – and what lessons can be learned?

- **What was the aim again? Dealing with a multitude of targets**
- What climate policy? The policy mix in different sectors – and its overlaps and interactions with other policies
- Impacts of current climate policies: are they actually making much difference?
- Differences across countries: different starting points and their effect on climate policy instrumentation
- Planning for the future: the difficulty of anticipating surprises

What was the aim again?

- Which is 'the' relevant objective of EU climate policy – given the ever closer linksof climate and energy policies?
  - Emission reduction should (logically) be the overriding objective of all climate policy efforts
  - EU climate and energy policy: Trias of objectives (GHG emissions, renewables, energy efficiency, plus biofuels target in transport)
  - Energy policy: Triangle of security of supply, affordability/ competitiveness and environmental protection
  - Wider policy context (e.g. Europe 2020 strategy) – competitiveness, jobs, innovation, equity, cohesion, rural development …
- Policy objectives, or their hierarchy, or the expected link between policy instruments and objectives often remain vague – and priorities may change over time



What was the aim again?

15. A coherent European energy and climate policy must ensure affordable energy prices, industrial competitiveness, security of supply and achievement of our climate and environmental objectives. Substantial progress has been made towards the attainment of the EU targets for greenhouse gas emission reduction, renewable energy and energy efficiency, which need to be fully met by 2020.

European Council Conclusions, 21 March 2014

1. 2. 3. 4.

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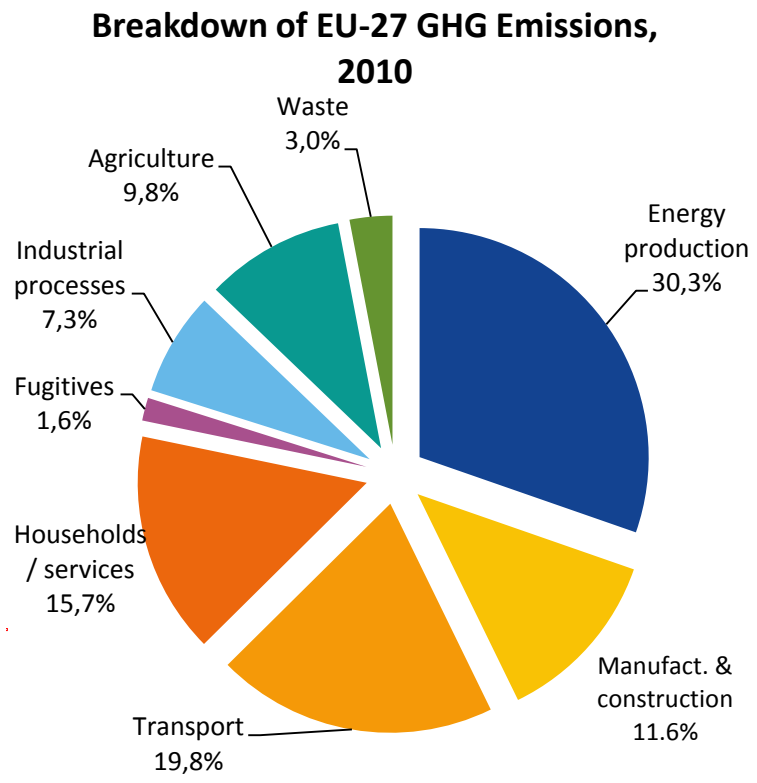
Which climate policy? The instrument mix in different sectors



Source: EEA

- Analyses and debates of climate policy tend to focus on power generation and energy-intensive industries
- Carbon pricing (and in particular the EU ETS) is considered the cornerstone of European climate policies – and has consequently been the focus of much economic analysis, particularly its effects on the power sector
- But the EU ETS only covers about 40% of EU GHG emissions – in other sectors, carbon pricing is much less prominent (or non-existent)

Which climate policy? The instrument mix in different sectors

- For instance: agriculture (about 10% of EU GHG emissions)
  - Little in the way of a defined and systematic "climate policy" – let alone carbon pricing.
  - Significant emission reductions achieved in the last 20 years – but essentially as a by-product of other (non-climate) environmental legislation, as well as overall modernisation
- For instance: transport (about 20% of EU GHG emissions)
  - Transport fuels feature the highest tax burden on any fossil fuel – but impossible to define how much of this is in fact "carbon pricing", i.e. climate-motivated. In addition, a wide array of other fees, charges, duties and taxes applies.
  - In theory, fuel taxes should be the instrument of choice. In practice, a number of distorting factors limit their effect – such as taxation rules for company cars
  - …and consumer behaviour is more complex than could be expected: people respond differently to different types of price signals (fuel taxes / road charges), for different types of transport (leisure / business / commuting)
  - Result: good old command-and-control (fuel efficiency standards) has much more impact

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Impact of selected climate policies: a macroeconomic view

- Ex-post analysis of policy impacts starts with a *counterfactual scenario*: what would the world look like if the policy in question had *not* been implemented?
- One way of doing this is counterfactual simulation based on economic modelling: how would GDP, employment and CO2 have developed *in the absence of* currently existing policies (Environmental tax reform, EU ETS, renewable support)? What happens if you 'switch off' environmental policies since 1995?
- Simulation carried out by GWS Osnabrück using the GINFORS dynamic input-output model

Impact of selected climate policies: a macroeconomic view

- Climate policies in Europe have achieved their main objective: to reduce emissions. Without environmental tax reform, EU ETS and renewable support schemes, **the EU's CO2 emissions in 2008 would have been about 12-13% higher** than the actually observed levels.
- Impacts on **GDP** have been modest overall: slightly negative for environmental tax reform and ETS, probably positive for renewable support measures
- Impacts on **employment** were equally modest: slightly positive for the environmental tax reform, slightly negative for EU ETS, undecided for renewable support
- Stronger effects can be observed at the sectoral level (in particular electricity generation, mining, refinineries, chemicals)
- **On balance, if the analysed policies had *not* been implemented, we would probably have lower – but certainly not higher – figures for GDP and employment**

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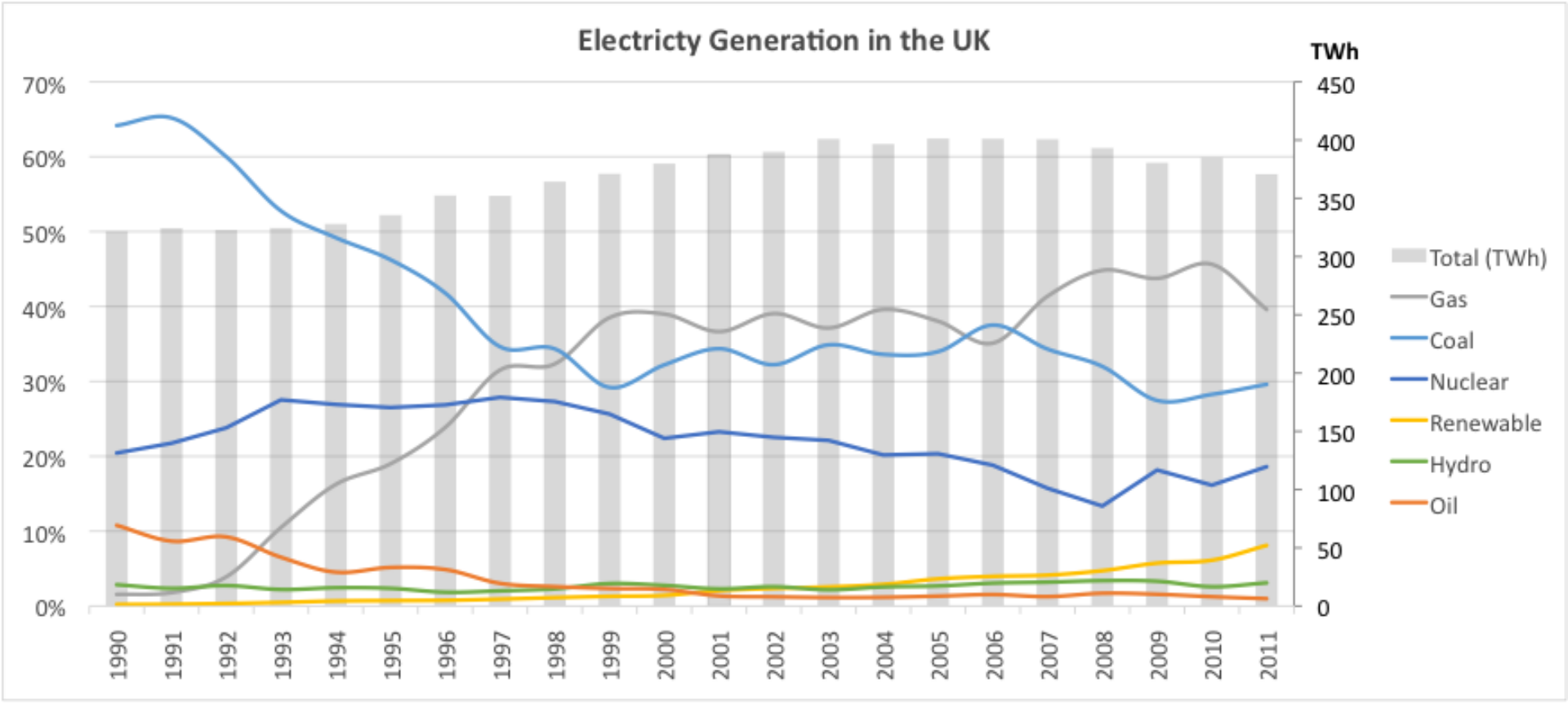
Differences across countries: legal, institutional, political factors…

- Analysing the performance of existing policies is one matter – but to provide useful recommendations, one also needs to understand *why* particular countries have chosen particular policies
- Legal and institutional factors influence the choice of policy instruments, shape the conditions for their implementation, and affect their performance once implemented
  - Legal basis for policies
    e.g. at the EU level: different mandates and decision-making rules related to energy and climate policy, but also related to particular types of instruments (unanimity requirement on taxation)
  - Multi-level governance
    esp. in Member States with a Federal System,
    and dynamics emanating from the sub-national level
  - Regulatory tradition
    e.g. traditional emphasis on command-and-control-regulation vs. openness to more innovative instruments,
    willingness to experiment with new approaches

… and the legacy of past political choices & resource endowment



Source: Agnolucci & Drummond 2014, CECILIA D2-1a

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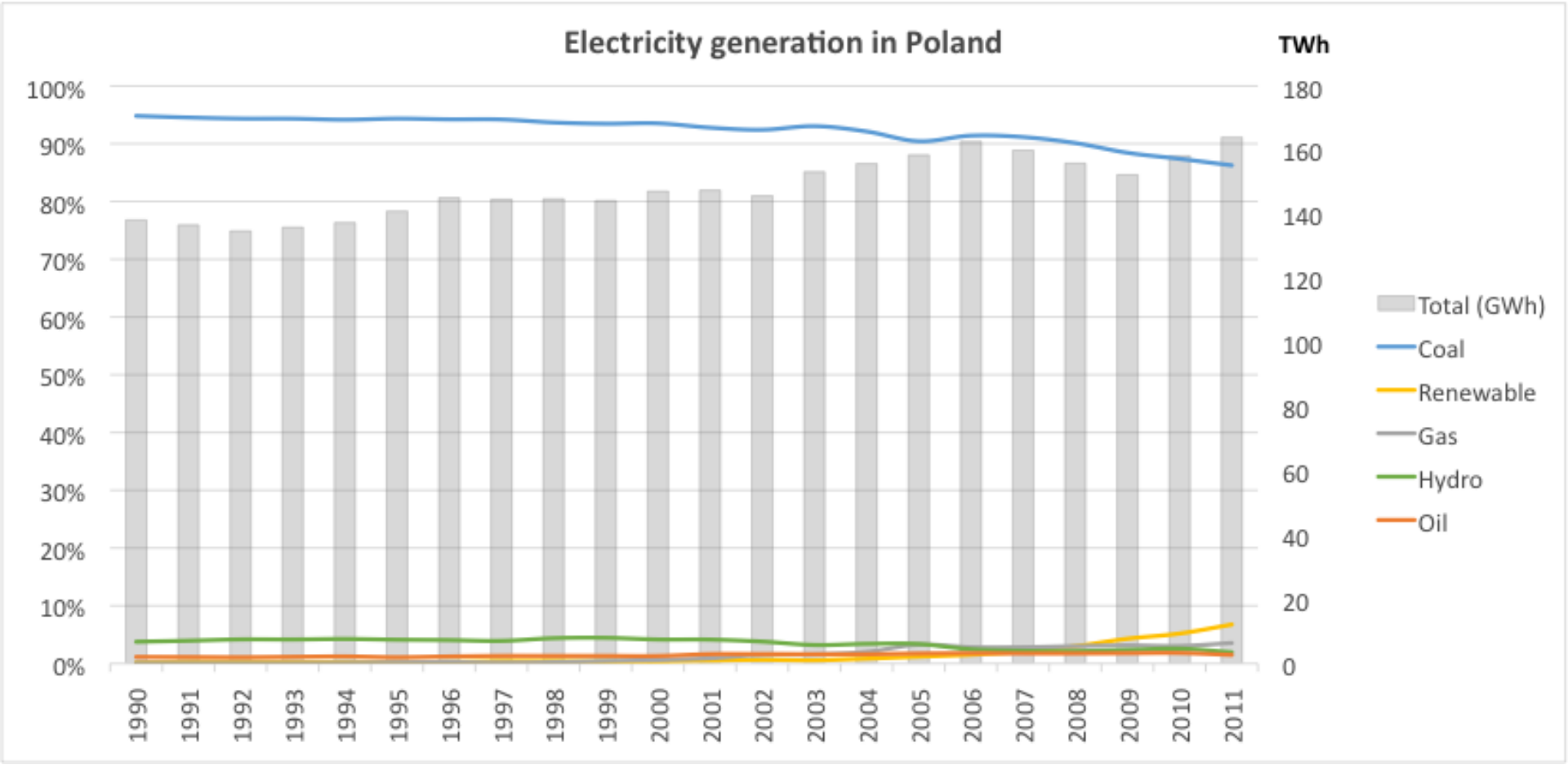

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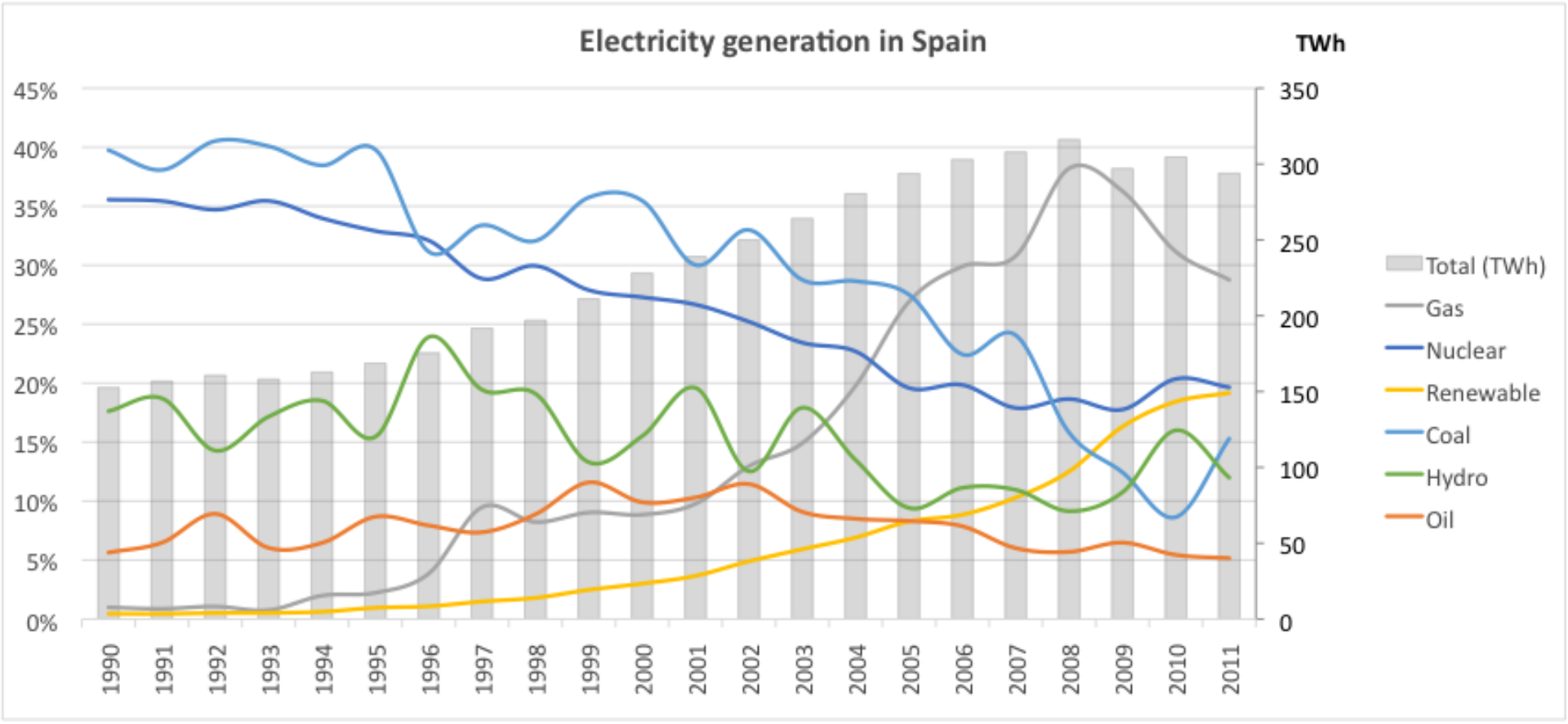

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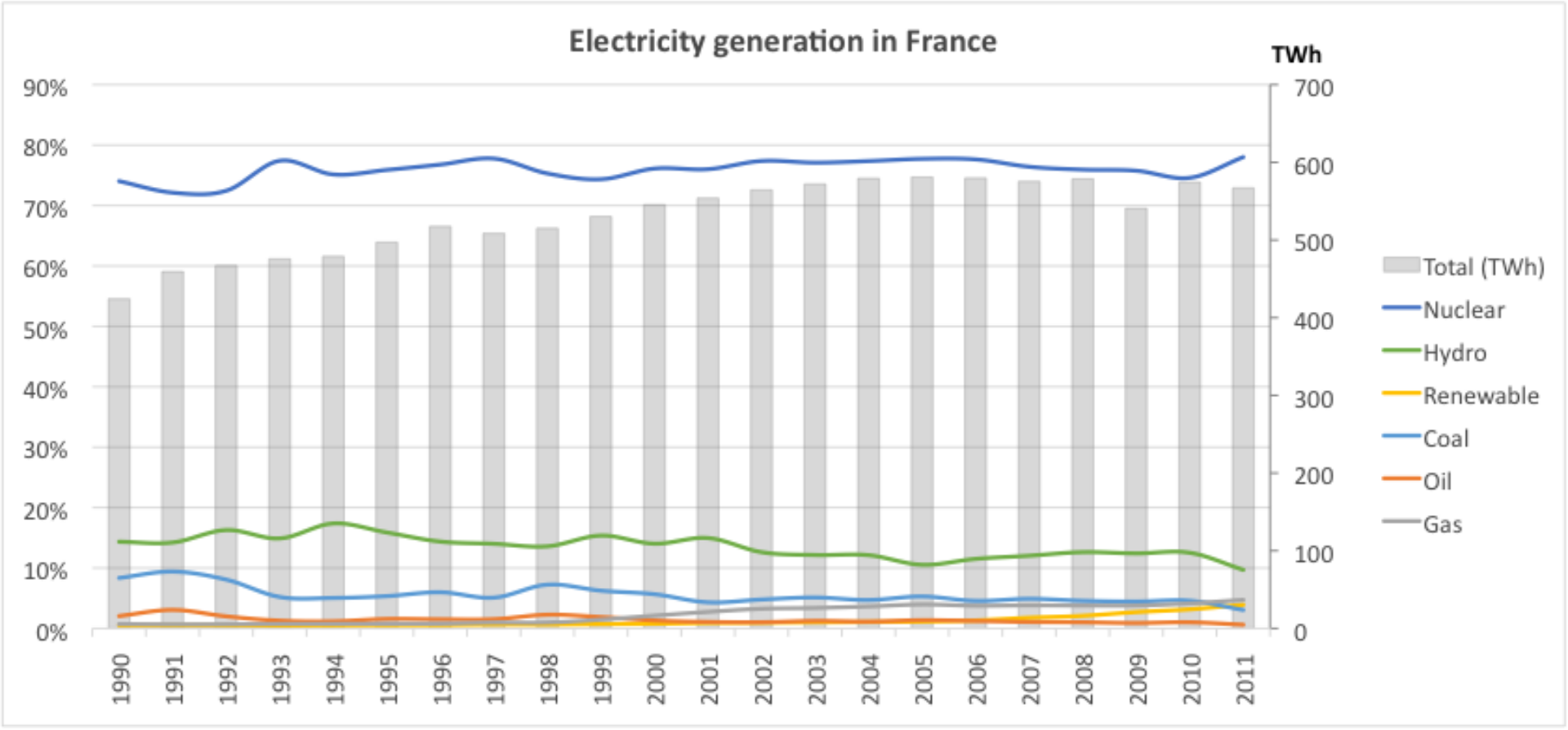

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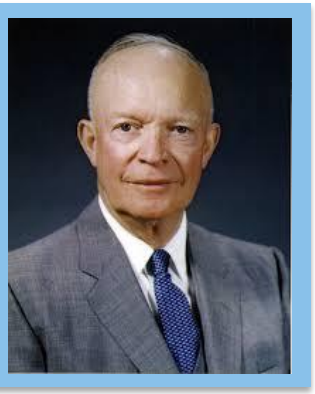
Planning ahead – the difficulty of anticipating surprises

- Plenty of surprises only in the last few years:
  - EU ETS surplus due to the economic crisis: reminder how difficult it is to plan ahead – and how difficult to change a system that is up and running
  - Phenomenal cost decline for solar PV – and drastic changes in the market for PV modules
  - US shale gas boom and effects on coal and gas prices,
  - Effects of renewables on the profitability of power sector investments, etc.
- Long-term planning, credible commitments, clear guidance is necessary to direct investments and trigger innovation – but how feasible is this in the face of the various political, technological, economic and socio-cultural uncertainties?

Plans are nothing.
Planning is everything.
Dwight D. Eisenhower



The five main lessons

1. **The mix matters.**
   - Policy and academic discussion like to focus on carbon pricing, and in particular ETS – but other instruments have considerable impact, and in some sectors dominate pricing tools.

The five main lessons

1. The mix matters.
2. **Pricing tools are not exploiting their full potential.**
   - The existing pricing tools have had some effect – reducing emissions at negligible cost to the economy, but they offer more potential to reduce emissions. Exploiting this potential requires not only a reform of pricing tools themselves – but also setting the right framework conditions, and remove contradictory incentives.

The five main lessons

1. The mix matters.
2. Pricing tools are not exploiting their full potential.
3. **There is plenty of diversity in European climate policies.**
   - … and less harmonisation than one might expect. Market integration increases the pressure to harmonise policies (electricity market, fuel tourism). Going forward, the challenge is to leave room for national and regional climate leadership, so that the diversity of European countries and regions can serve as a laboratory for new policy approaches.

The five main lessons

1. The mix matters.
2. Pricing tools are not exploiting their full potential.
3. There is plenty of diversity in European climate policies.
4. **The focus on the power sector and industry is too narrow.**
   - For other sectors, there is a lack of policy attention, lack of a coherent strategy, lack of ambition, and a lack of innovative instruments.

The five main lessons

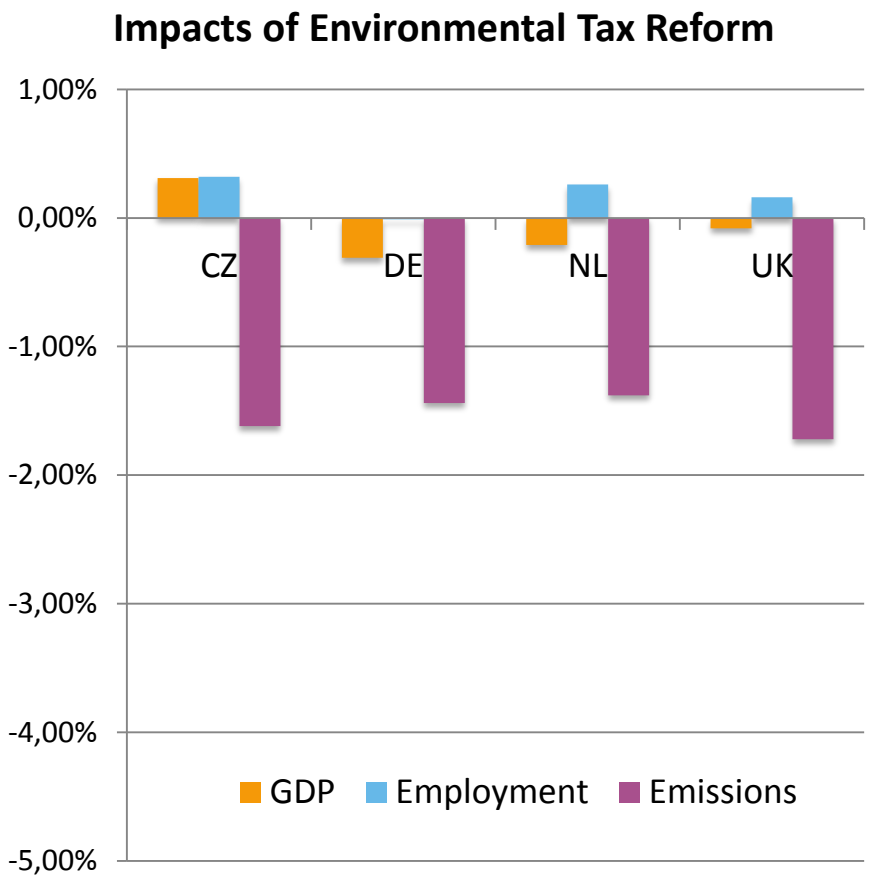
1. The mix matters.
2. Pricing tools are not exploiting their full potential.
3. There is plenty of diversity in European climate policies.
4. The focus on the power sector and industry is too narrow.
5. **Squaring the circle: Policy instruments that are both rigid and flexible**
   - Policies need to be flexible to adapt – and yet rigid to send out a firm and credible long-term signal, especially for sectors with a long investment horizon. Abrupt changes can choke off innovation and investment dynamics, but policies that are too rigid are ill-equipped to deal with the uncertainties and surprises ahead.

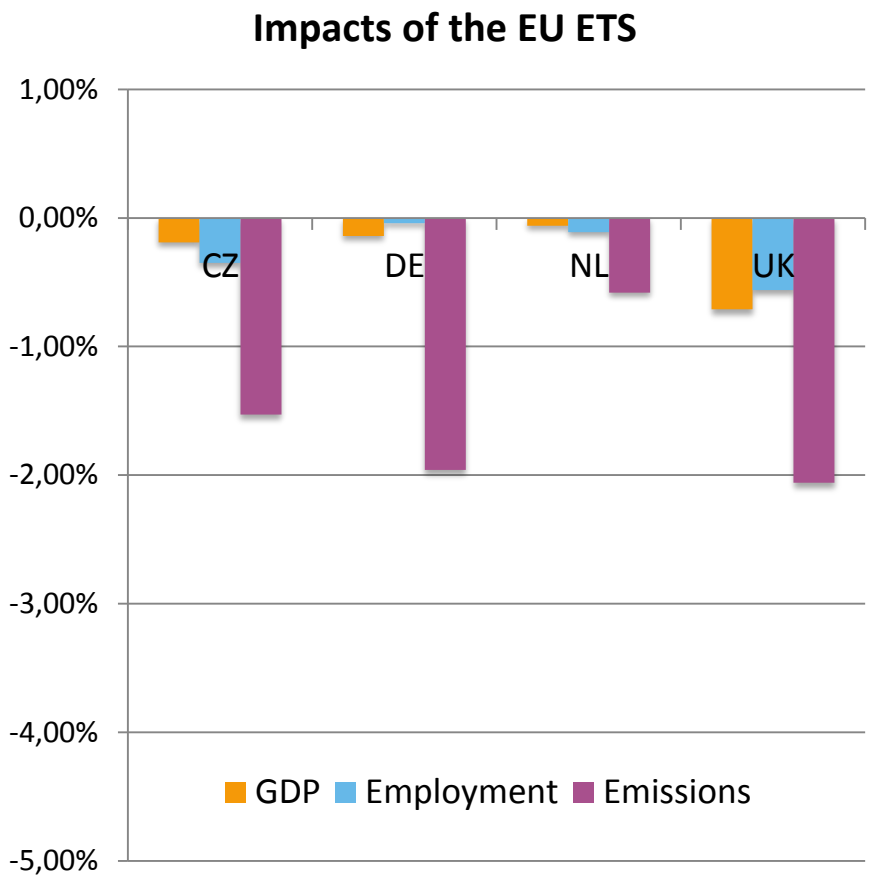
Thank you for your attention.

Benjamin Görlach, Ecologic Institute

www.cecilia2050.eu

Impact of selected climate policies: a macroeconomic view





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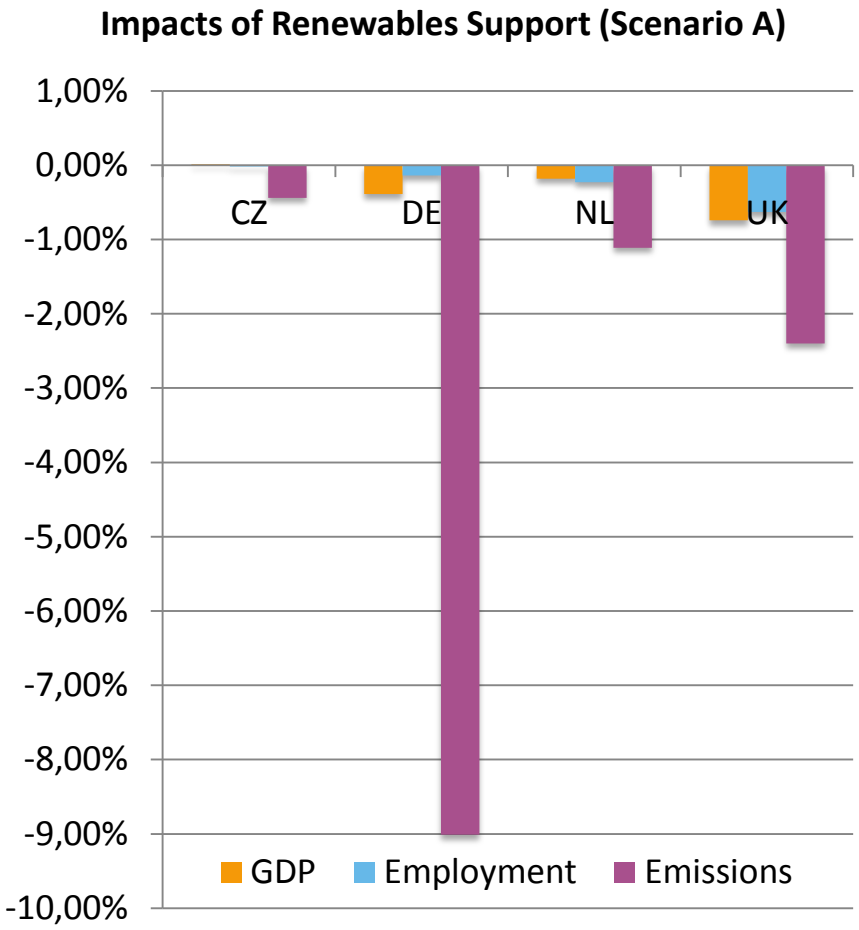

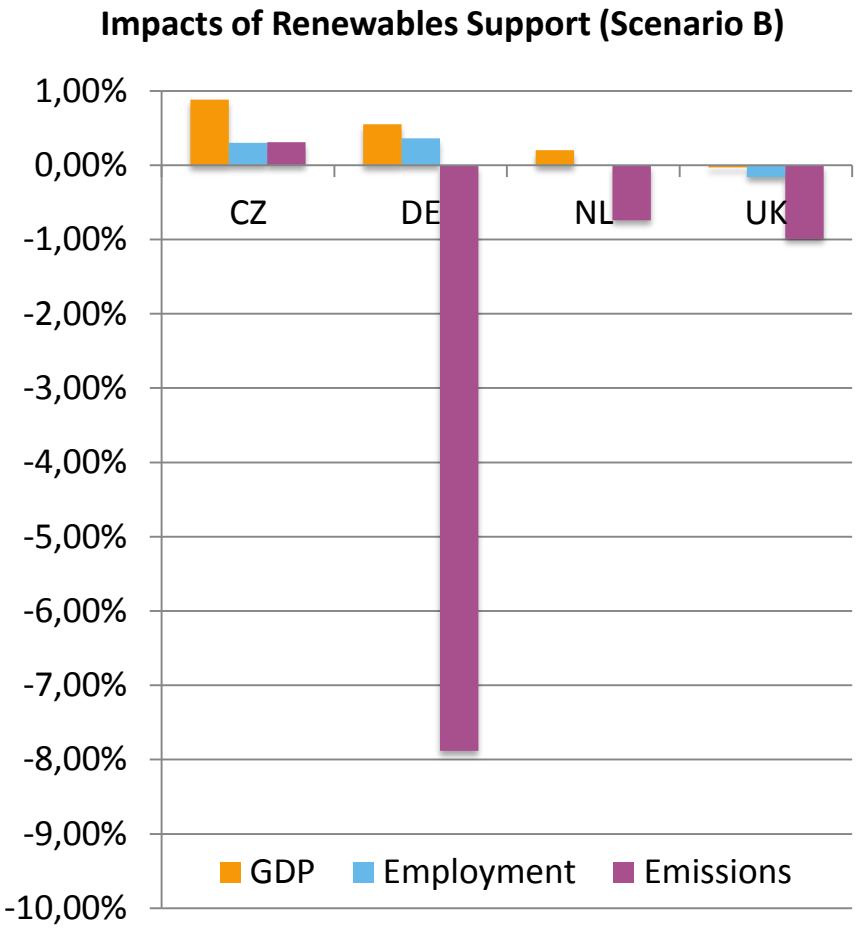

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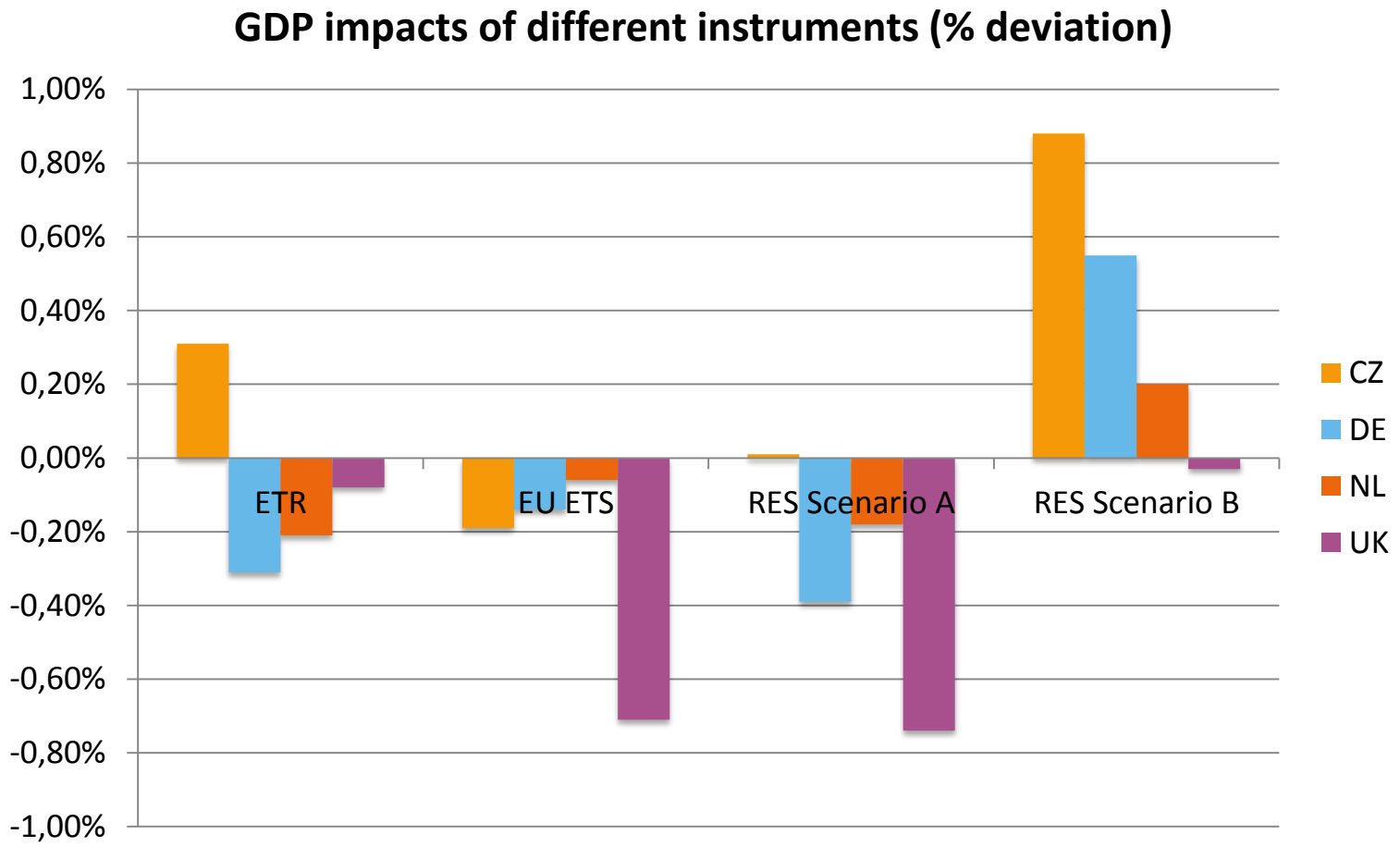

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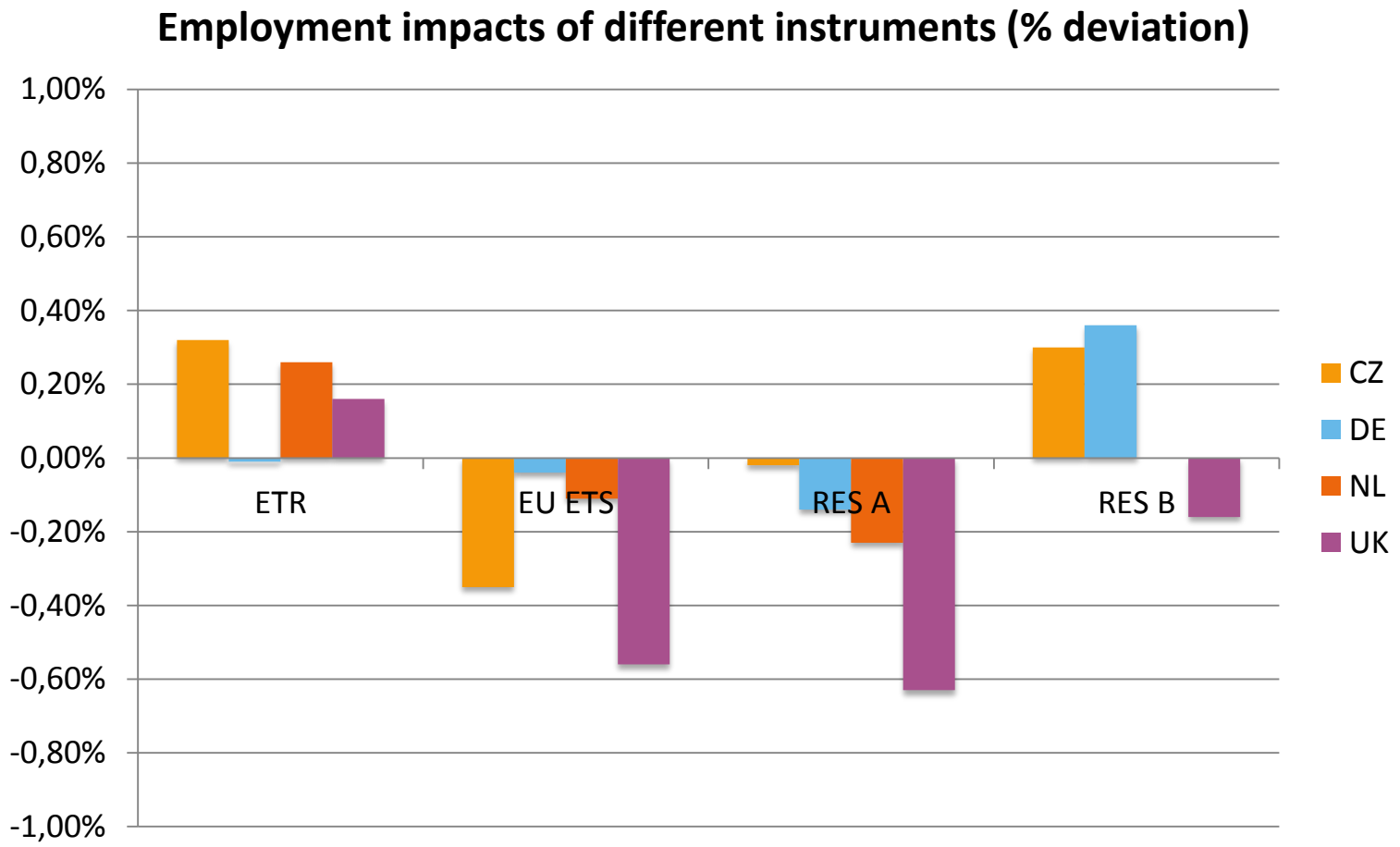

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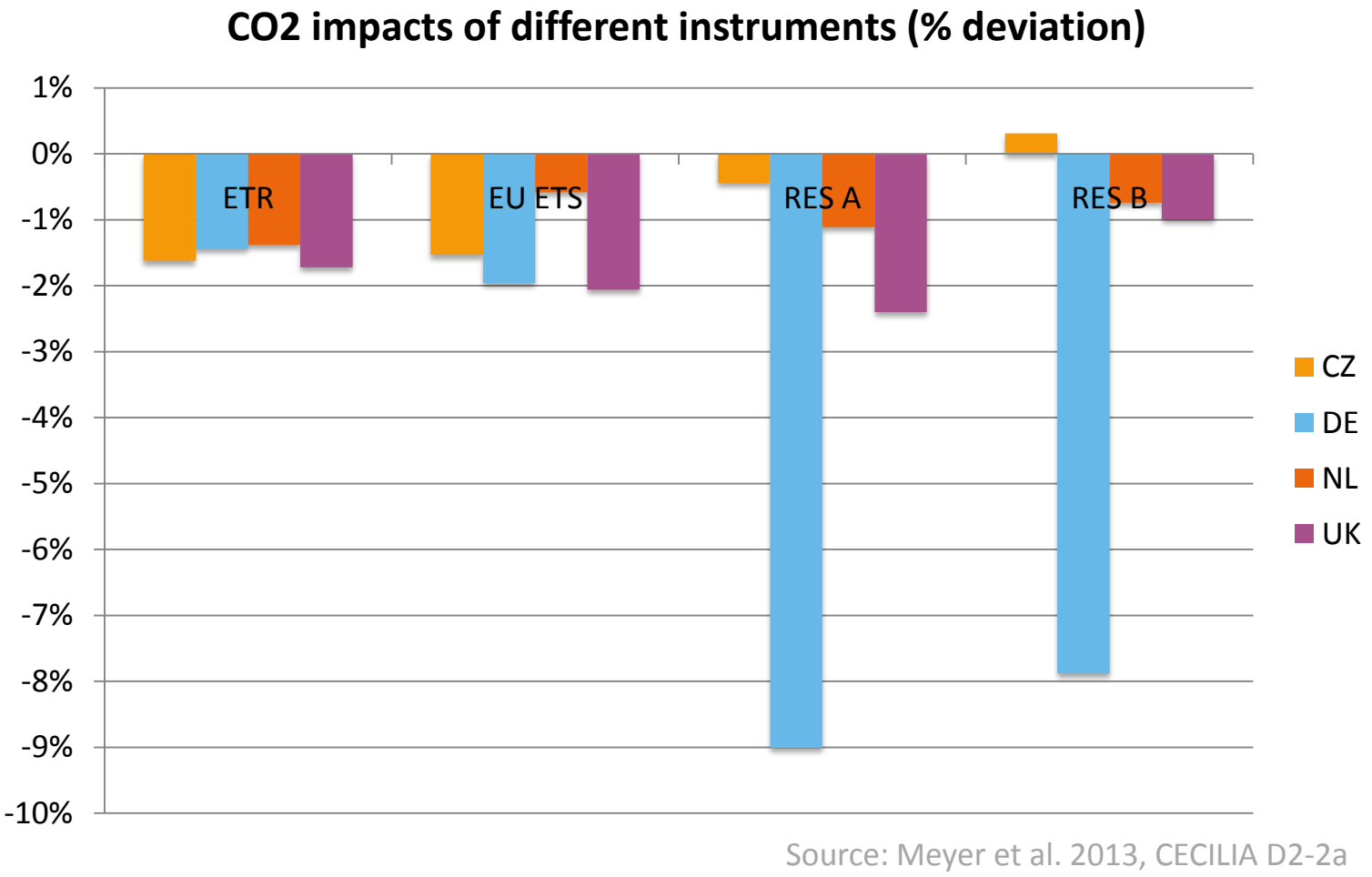

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