How optimal is the current EU climate policy mix?

Insights from the CECILIA2050 country case studies

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Funded by the European Union

SEVENTH FRAMEWORK PROGRAMME

Tackling the 2050 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

Who we are: 10 partners from 8 countries

- **NL:** Institute of Environmental Sciences (CML) at Leiden University
- **NL:** Institute for Environmental Studies (IVM) at the Free University of Amsterdam
- **CZ:** Charles University Prague (CUNI)
- **PL:** University of Warsaw
- **UK**: University College London (UCL)
- **F:** Centre International de Recherche sur l'Environment et le Developpement (CIRED)
- **ES:** Basque Centre for Climate Change (BC3)
- **IT:** University of Ferrara (UNIFE)
- **DE:** Institute of Economic Structures Research (GWS) in Osnabrück/Germany
- **DE:** Ecologic Institute in Berlin as project leader

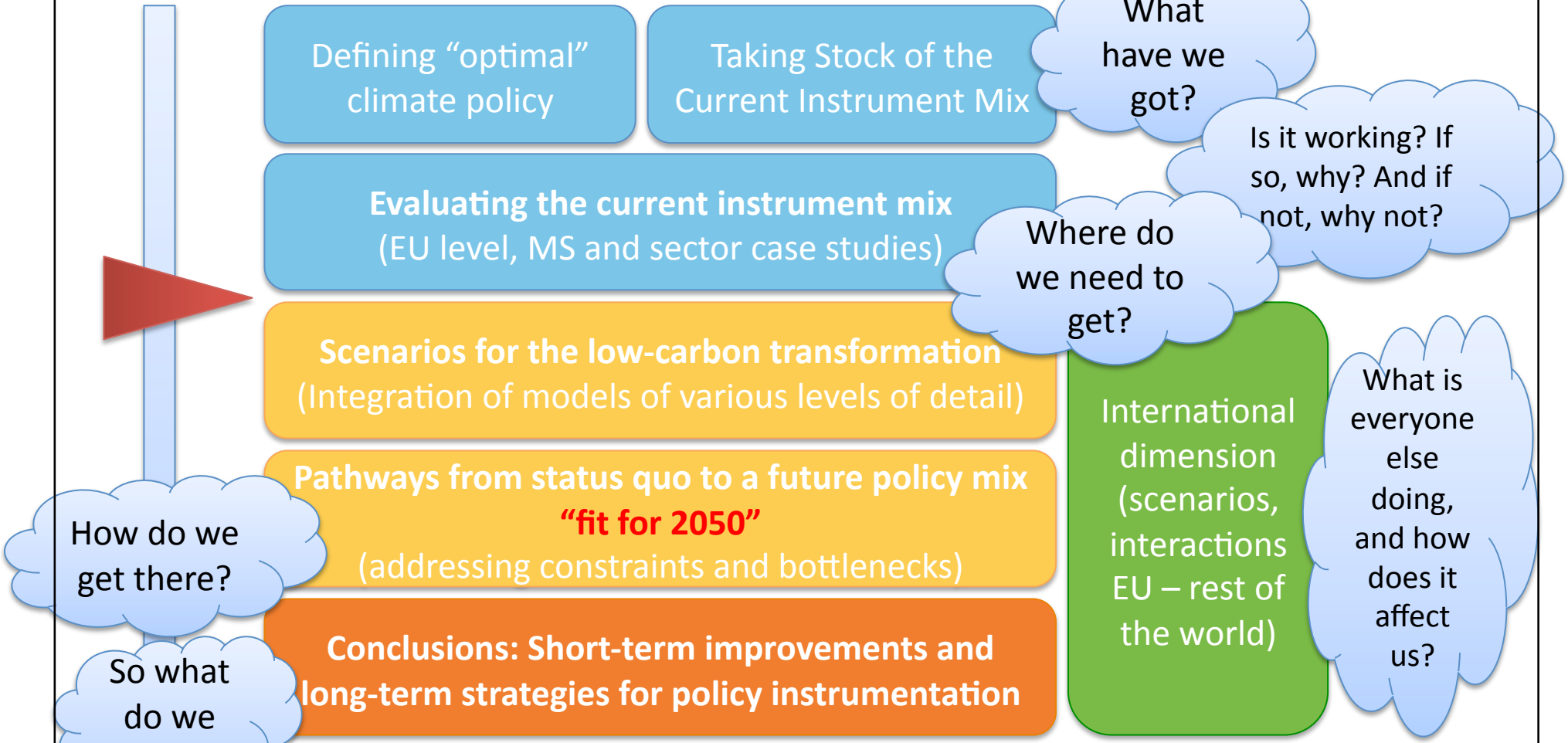
The EU's 2050 target: 80-95% reductions = decarbonisation

BRUSSELS EUROPEAN COUNCIL
29/30 OCTOBER 2009

PRESIDENCY CONCLUSIONS

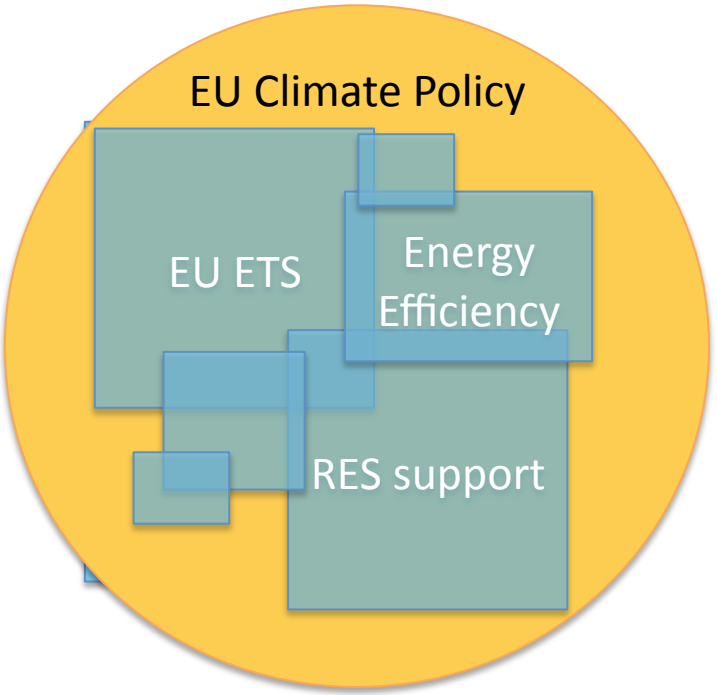
The European Council calls upon all Parties to embrace the 2°C objective and to agree to global emission reductions of at least 50%, and aggregate developed country emission reductions of at least 80-95%, as part of such global emission reductions, by 2050 compared to 1990 levels; such objectives should provide both the aspiration and the yardstick to establish mid-term goals, subject to regular scientific review. It supports an EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, to reduce emissions by 80-95% by 2050 compared to 1990 levels.

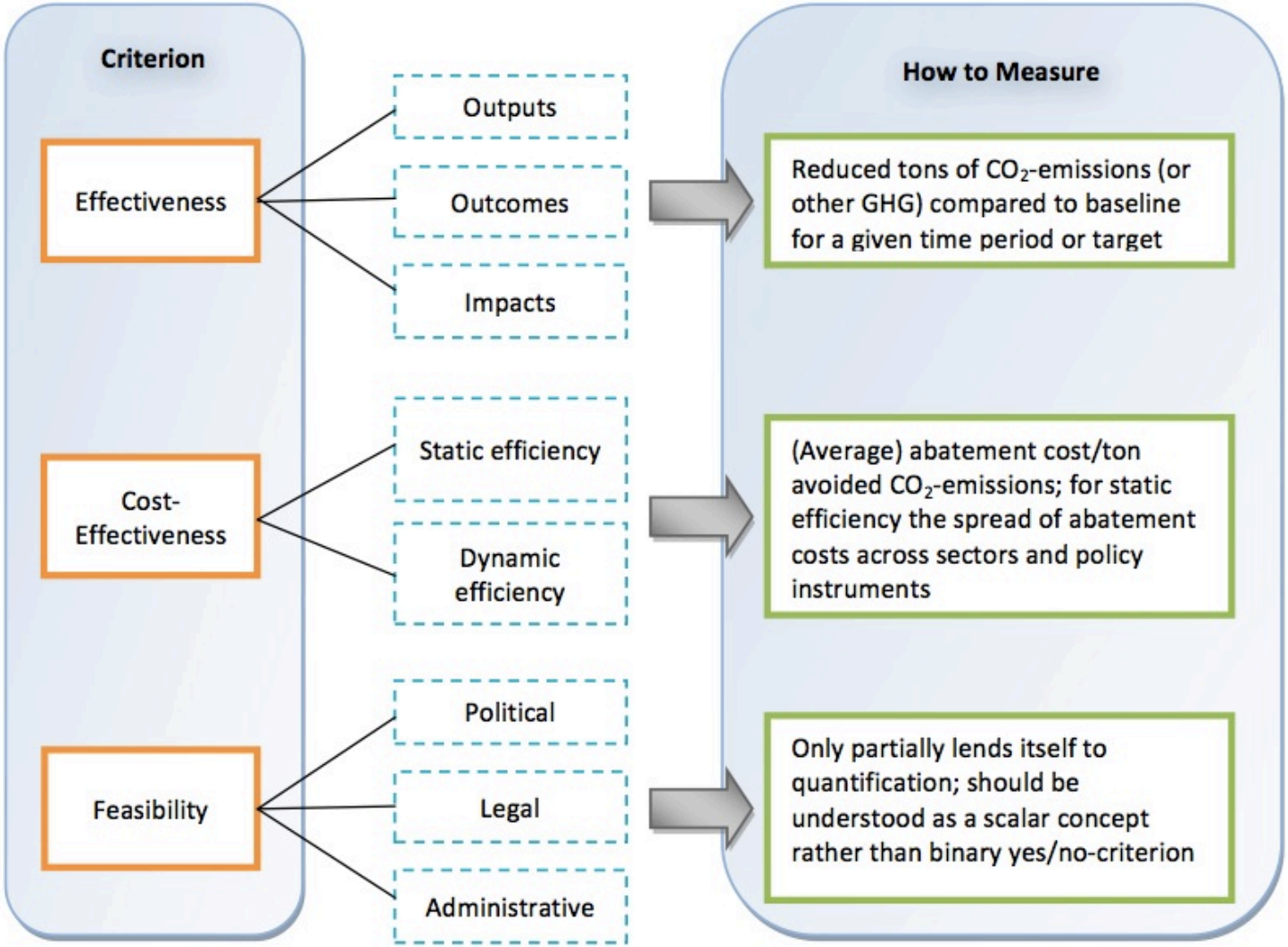
The CECILIA2050 project: overview of the project structure

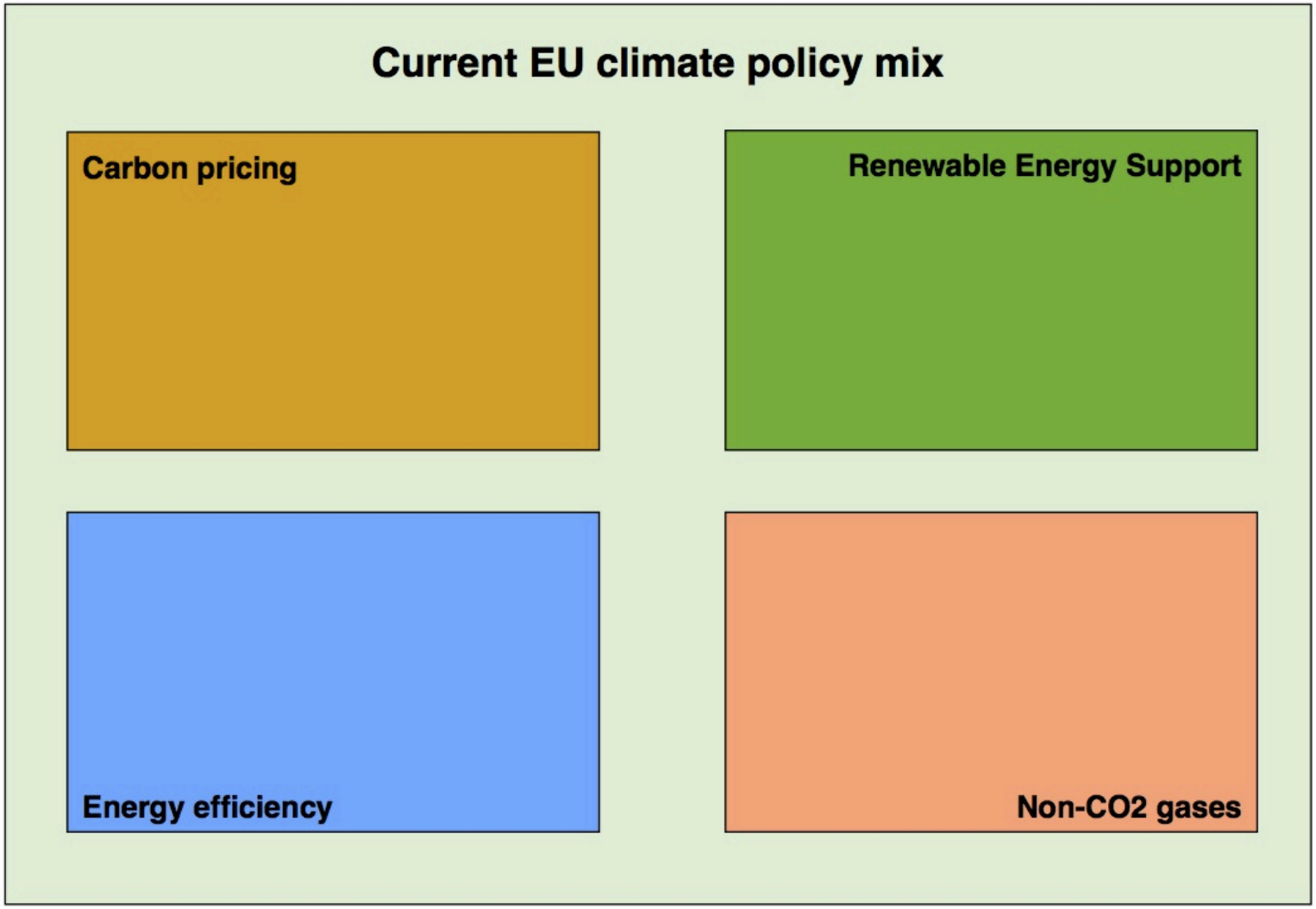


What kind of optimality? Questions for post-2020 policy

- Single or multiple **objectives**?
- **Interactions** of policies – can conflict resolution be built into their design?
- Should the EU aim for a well-integrated, clearly structured **orchestra** of instruments – or should we allow for some overlap and **redundancy** to insure against policy failure?
- What role for **pricing** tools in the optimal policy mix: even if we had a "proper" carbon price, how far would it take us in the transformation?
- How much **inefficiency** (imbalance) are we prepared to tolerate in the name of feasibility?
- How to deal with the fact that **feasibility** is both a constraint and a (legitimate) object of public policies?




Criterion
How to Measure
Effectiveness
Outputs
Outcomes
Impacts
Reduced tons of CO_2-emissions (or other GHG) compared to baseline for a given time period or target
Cost-Effectiveness
Static efficiency
Dynamic efficiency
(Average) abatement cost/ton avoided CO_2-emissions; for static efficiency the spread of abatement costs across sectors and policy instruments
Feasibility
Political
Legal
Administrative
Only partially lends itself to quantification; should be understood as a scalar concept rather than binary yes/no-criterion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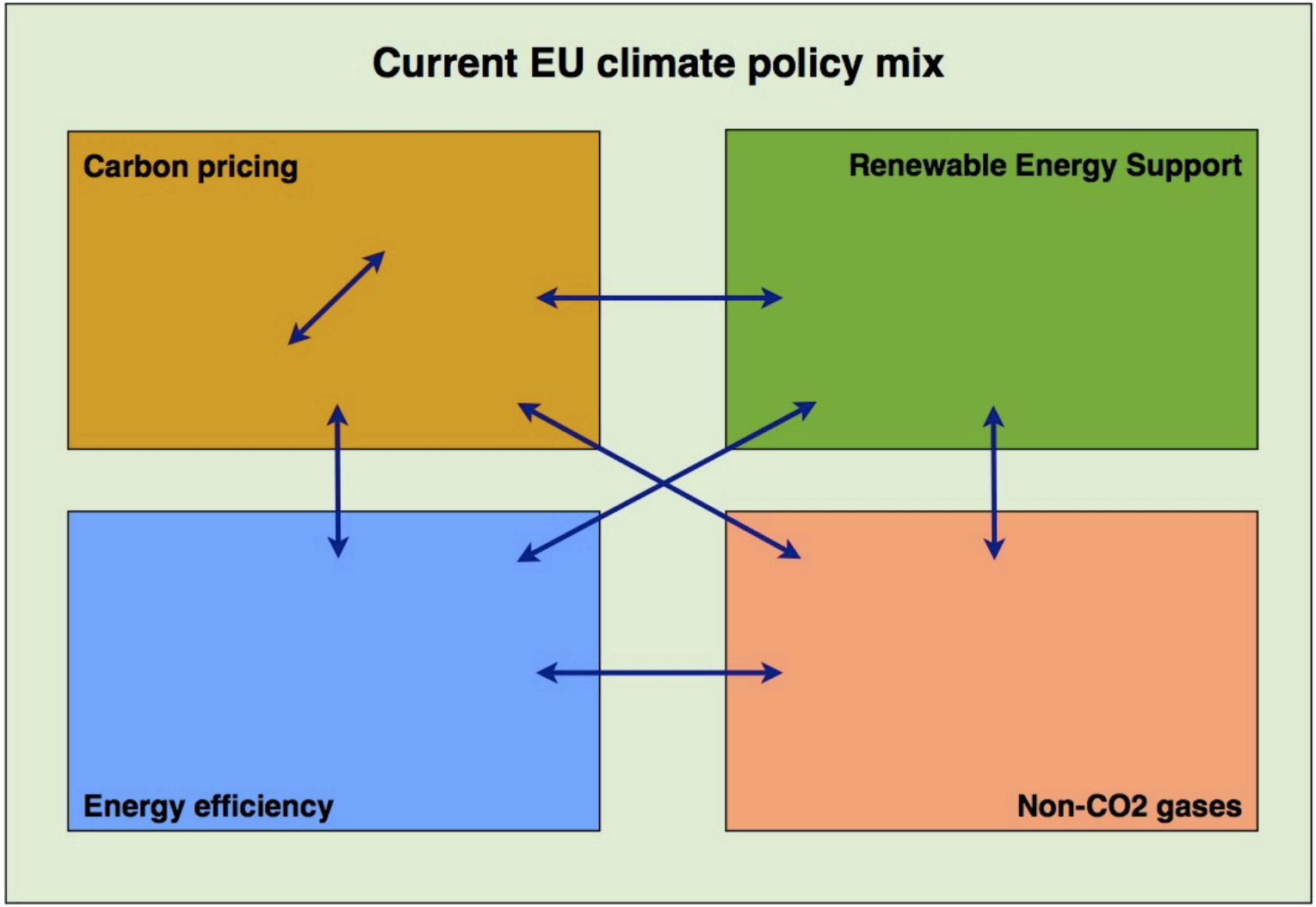
Renewable Energy Support
Energy efficiency
Non-CO2 gases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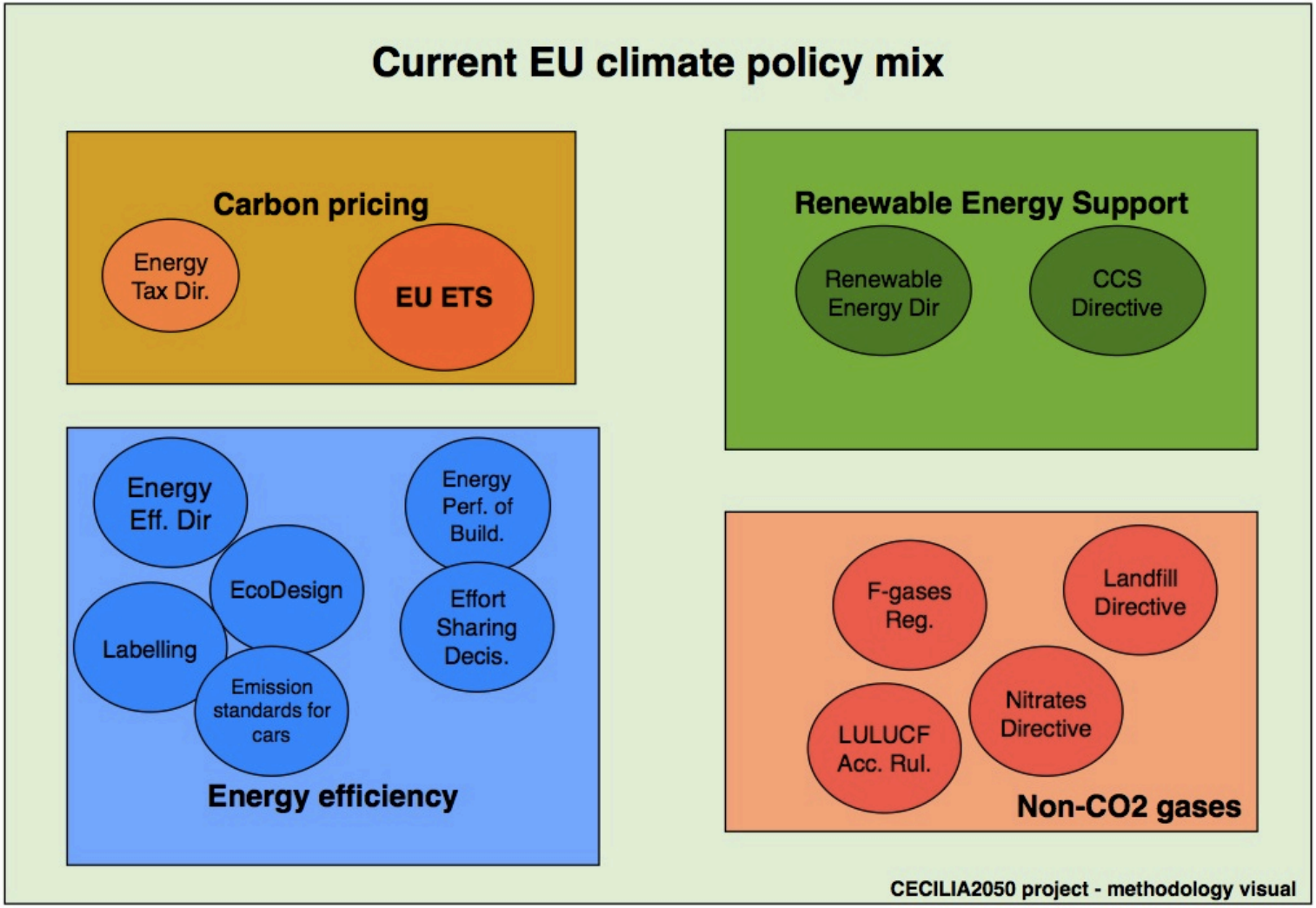
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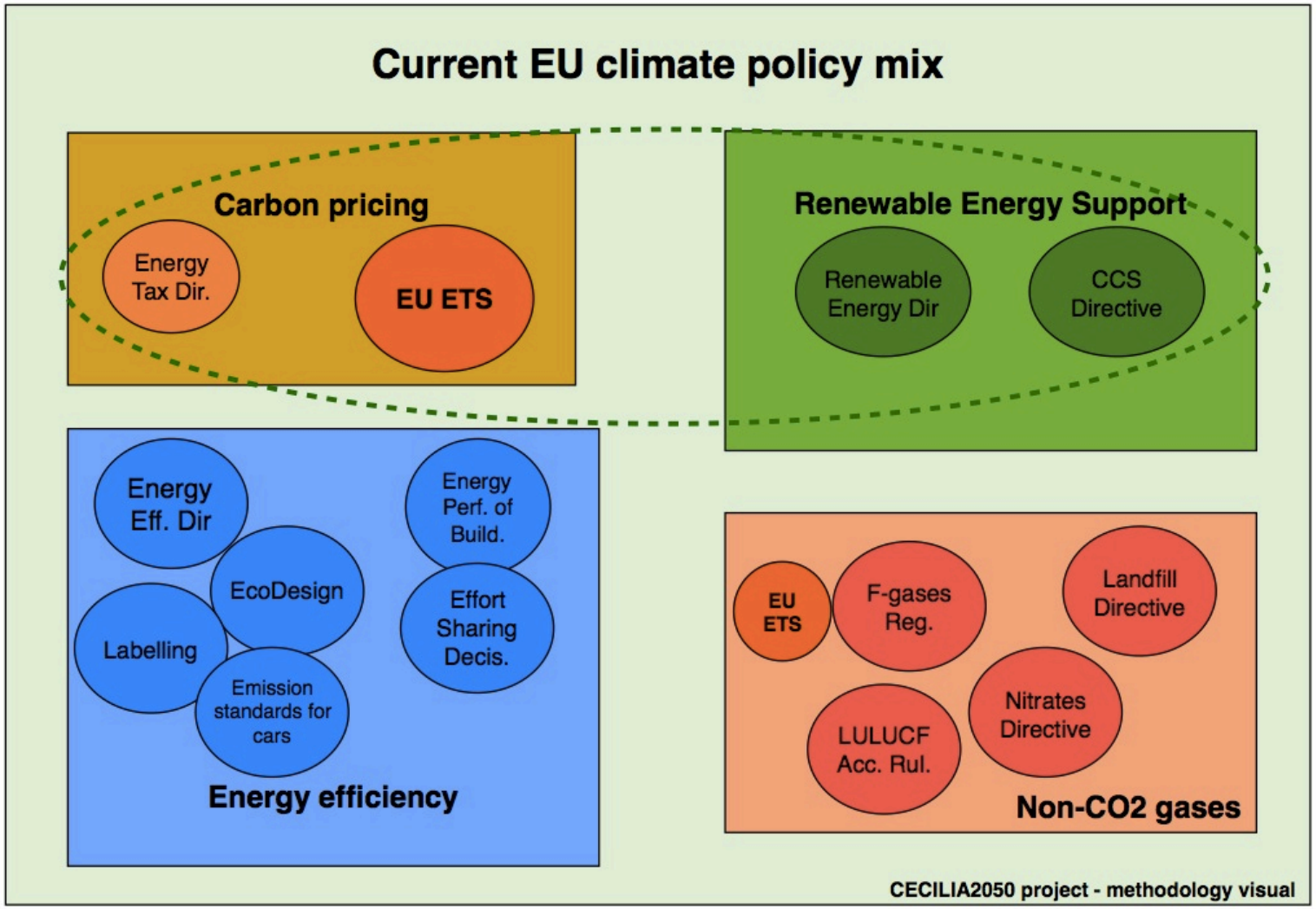
CECILIA2050 project - methodology visual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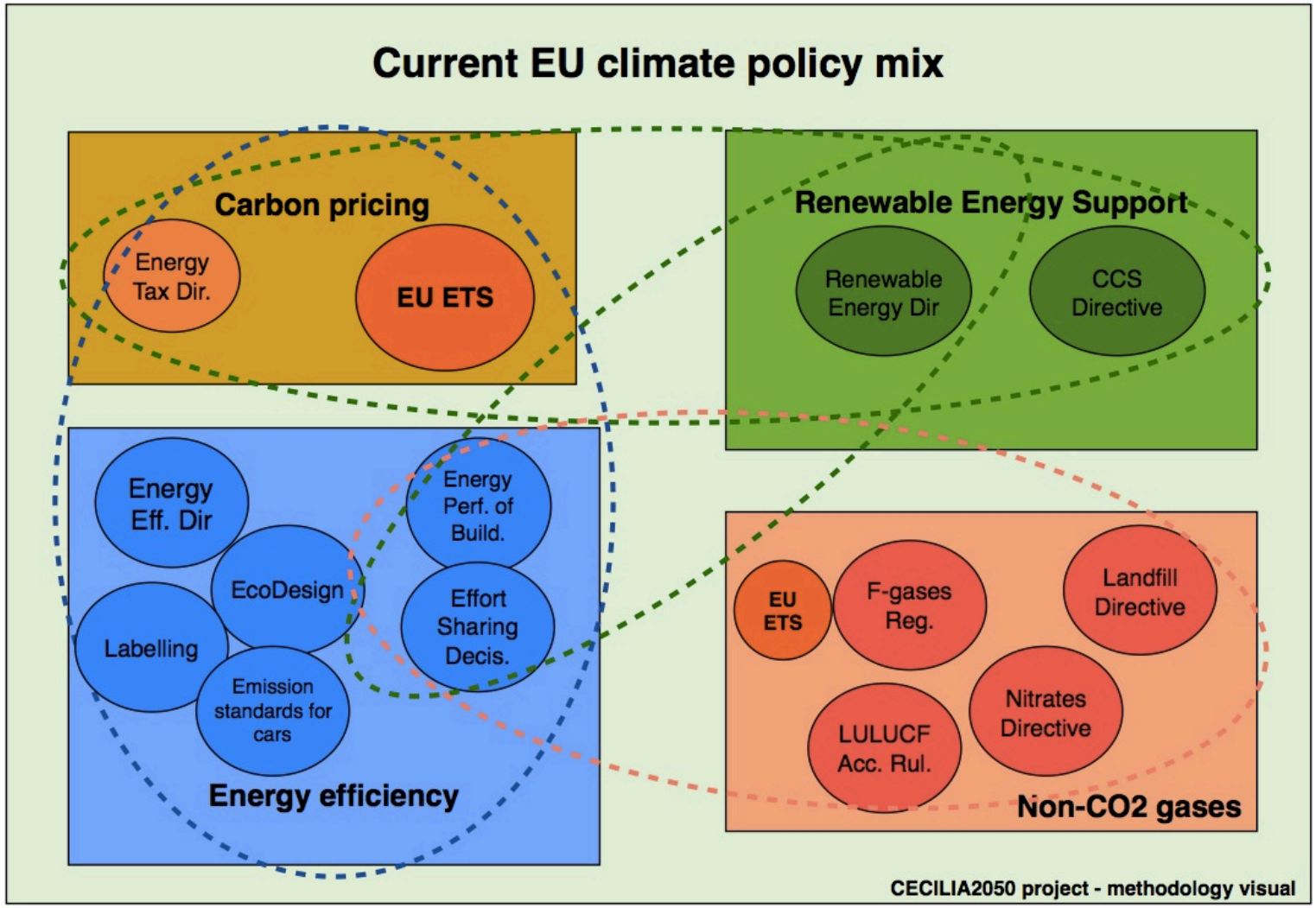
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Overall results

- **Effectiveness** varies per main objective and policy landscape
  - Progress on emission reductions and renewables but impact of crisis and structural change
  - Policy landscapes: carbon pricing: ETS has lost relevance; few national carbon taxes ; energy efficiency policies have not delivered sufficiently. Non-CO2 receives less attention.
- **Cost-effectiveness** is low overall, with regard to both static and dynamic efficiency.
  - Many nationally differentiated approaches prevail, with little EU-wide harmonisation, countries rely on regimes and instruments for individual sectors, with divergent ambition,
  - Lack of dynamic incentives over the longer term even in policies that are otherwise deemed to be effective. However, in some policy landscapes (such as renewables support and energy efficiency), dynamic efficiency can be observed and is having an impact.
- **Feasibility** a given for the measures concerned, but past debates are reflected in the design of policies, including shortcomings built that were necessary at the time.
  - Support for certain types of policies and/or their level of stringency can and has changed, has led to adjustments in policy – often under pressure to soften the policies
  - Policy learning can be observed and improvements have been made over time (e.g. ETS)

Overall results

- **No current policy mix is optimal**.
- Significant drawbacks in terms of effectiveness and cost-effectiveness. Feasibility referenced largely by way of changes in perception by policy-makers.
- **Qualitative differences between the policy mixes**, especially comparing some Member States. Significant scope for optimising climate policy at the national level.
- Individual instruments can score well on all three main criteria.
- There **are three types of individual instruments** that were identified as having been most "optimal":
  - 1) renewables support schemes,
  - 2) investment support for energy efficiency and
  - 3) general pricing tools (mainly taxes).

Interactions

- Few instances in which instruments had a direct negative impact on each other.
- **Positive interactions prevail**, while some simply have neutral relationships.
- Directly overlapping instruments **can be mutually supportive** (e.g. efficiency)
- Number of instruments in specific policy landscape not essential (efficiency vs pricing)
- Regulatory overlaps are in fact integrated into the design of (especially newer) policy instruments (e.g. EED / RED) => a supportive relationship through **smart design**.
- Instances of negative interactions more common among instruments designed with **different purposes** in mind (e.g. direct CO2 focus (EU ETS) and not (ETD)).
- Noteworthy: interaction of carbon pricing tools with other policies. Generate revenues to help implement other policies (e.g. ETS auctioning revenues in Germany, Czech Republic and Italy, etc. / Green Investment Schemes).

Where things have gone wrong

- **Trade-offs** between (political) feasibility and both effectiveness and efficiency
  - **Exemptions from compliance** (especially regarding payments) for specific industries are often built into policies (e.g. In NL, UK, F, DE)
  - **Abrupt policy changes** lower effectiveness and cost-effectiveness of policies. (E.g. renewables in NL, CZ, ES) seem to have negative effects, too severe and too abrupt.
- **Contradictory incentives** in some cases, especially from policies not designed for climate reasons (e.g. Landfill Directive vs. Renewable Energy, ETD vs. EU ETS).
- At some levels (national or sectoral) there is **no coherent vision** or strategy – which means that policy design is lacking direction (e.g. CZ).
- There are **gaps in the policy mix**: sectors with sources of non-CO2 gases are less well covered with policies. In the agricultural sector, for example, current projections do not indicate additional emission reductions in the EU28 by 2020. This has a negative impact on both effectiveness and cost-effectiveness of the mix as a whole.

What has worked (common features)

1. Broad political and public support
   - stakeholders directly engaged in policy implementation: as investors (RES FIT) or by similar specific economic incentives for e.g. homeowners (energy efficiency support schemes).
   - Specific revenue stream makes it easier, (proceeds from the sale of AAUs (CZ) or from the auctioning of EUAs (CZ, DE). Problem: lacking stability and predictability of funding.
2. Taxes and levies (hard at EU level) seem to have worked at national level (e.g. UK),
   - create a revenue stream that can be used to win political support (increase feasibility)
   - enhance cost-effectiveness, if the revenues are used to promote low-carbon-investments.
3. Long-term nature (e.g. of some feed-in tariff systems (e.g. DE)) a success factor
   - helped build up investor confidence
   - spurred technology deployment at a scale that facilitated innovation and lower prices.

Lessons

1. Optimal policies need acceptance and buy-in to enhance feasibility

- Instruments that stand out in the analysis often managed to marry environmental effectiveness and political feasibility, by creating incentives that generated both a direct economic rationale for the target audience (such as support for building renovation) and visible results (increase in renewables deployment).

Lessons

1. Optimal policies need acceptance and buy-in to enhance feasibility
2. **Optimality in a changing world requires both stability and flexibility to learn**
   - Managing the low-carbon transformation requires a delicate balance between flexibility and rigidity. Policies have to be flexible in order to learn and adapt, and rigid to send out a long-term signal, especially for sectors with a long investment horizon.

Lessons

1. Optimal policies need acceptance and buy-in to enhance feasibility
2. Optimality in a changing world requires both stability and flexibility to learn
3. **Optimal policies require a long-term perspective**

   - The transformation to a low-carbon economy needs a long-term view, including on costs. To minimise costs in the longer term, it will be necessary to incur some short-term transition costs. Rather than trying to avoid these costs, the question is how to distribute them in a fair and equitable manner.

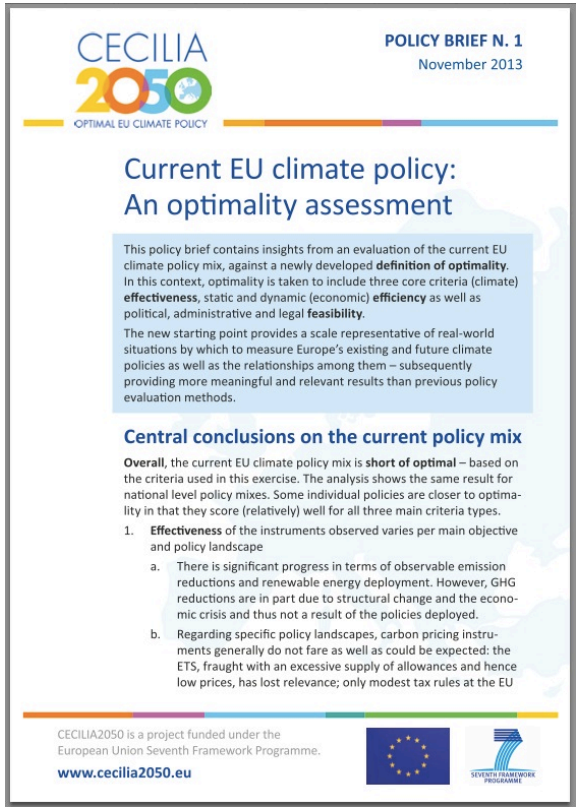
Lessons

1. Optimal policies need acceptance and buy-in to enhance feasibility
2. Optimality in a changing world requires both stability and flexibility to learn
3. Optimal policies require a long-term perspective
4. **Carbon pricing is not a panacea, but it needs to be crucial part of policy mix**
   - Carbon pricing tools are currently underutilized in their potential to induce emission reductions. The EU ETS needs strengthening and national tax schemes could be expanded. However, other targeted policies are required as flanking tools to induce behavioral change and transformational innovation.

Lessons

1. Optimal policies need acceptance and buy-in to enhance feasibility
2. Optimality in a changing world requires both stability and flexibility to learn
3. Optimal policies require a long-term perspective
4. Carbon pricing is not a panacea, but it needs to be a crucial part of the policy mix
5. **EU level harmonisation can improve efficiency, but must not stifle regional and local action**
   - While policy harmonisation promises greater efficiency, there should also be 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.

Thank you for your attention.



CECILIA 2050
OPTIMAL EU CLIMATE POLICY

POLICY BRIEF N. 1
November 2013

Current EU climate policy: An optimality assessment

This policy brief contains insights from an evaluation of the current EU climate policy mix, against a newly developed **definition of optimality**. In this context, optimality is taken to include three core criteria (climate) **effectiveness**, static and dynamic (economic) **efficiency** as well as political, administrative and legal **feasibility**.

The new starting point provides a scale representative of real-world situations by which to measure Europe's existing and future climate policies as well as the relationships among them – subsequently providing more meaningful and relevant results than previous policy evaluation methods.

Central conclusions on the current policy mix

Overall, the current EU climate policy mix is **short of optimal** – based on the criteria used in this exercise. The analysis shows the same result for national level policy mixes. Some individual policies are closer to optimality in that they score (relatively) well for all three main criteria types.

1. **Effectiveness** of the instruments observed varies per main objective and policy landscape
   a. There is significant progress in terms of observable emission reductions and renewable energy deployment. However, GHG reductions are in part due to structural change and the economic crisis and thus not a result of the policies deployed.
   b. Regarding specific policy landscapes, carbon pricing instruments generally do not fare as well as could be expected: the ETS, fraught with an excessive supply of allowances and hence low prices, has lost relevance; only modest tax rules at the EU

CECILIA2050 is a project funded under the European Union Seventh Framework Programme.
www.cecilia2050.eu

Policy Brief for download on our website

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