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European policies on Circular Economy and Climate Mitigation: synergies or antagonisms?

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1. Introduction

CO2NSTRUCT's aim is to develop a framework that will augment a well-known open climate mitigation energy systems model, with highly detailed technology representation – JRC-EU-TIMES (hereafter named TIMES) - with Circular Economy (CE) measures. The framework will focus on implementing CE measures for the value chain of six carbon-intensive construction materials (cement, steel, brick, glass, wood, and insulation materials). The framework will apply several CE scenarios to understand the near-term (2030) and future (2050 and 2070) and ensure carbon neutrality by at least 2050. This will be used to understand current and future potential CE contribution in Europe to GHG emissions reductions and will be translated into sound and effective policy support information for climate mitigation.

With this regard, Circular Economy integration into climate action and policy is limiting the EU's advancement to achieve carbon neutrality as fast as possible. Thus, the identification and development of policy instruments and initiatives to help integrate the circular economy into climate action and policies is of primary importance.

2. Objectives

The main objective of this paper is to review policy goals, measures and instruments across the following policy areas: climate, energy; environment (including CE) and industry. This review's objective is twofold: (1) to assess and characterise synergies and antagonisms among policy domains regarding CE and climate mitigation, and (2) to identify innovative and effective policy approaches for integrating CE into climate action. The analysis will focus on the EU+ policy level, with some incursions at Member State level (+UK) for the cases where best practices in integrating CE policies are identified. The policies assessment will feed into the climate mitigation scenarios for circular construction.

3. Conceptual framework and methodology

In order to better clarify and characterize the interactions between the 4 policy domains, we developed a conceptual framework (fig. 1).

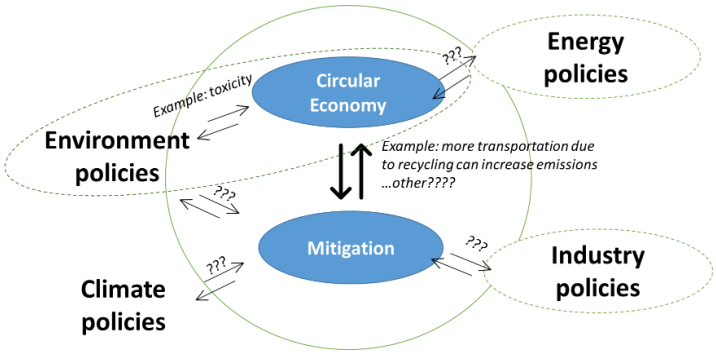

Figure 1. Conceptual framework for policy interactions

4. Preliminary results

The very first finding in our research was that European policies or legislative frameworks of our analyses are composed of several different types of documents representing quite fuzzy areas: energy, climate, environment, and industry are interlinked, especially in what concerns to the circular economy.

Thus, we needed to identify the most relevant documents/policies in each policy domain in a structured way. We found an umbrella policy, the European Union's (EU) Green Deal the most suitable structure to be used, as it is an important and recent policy reform that consolidates various policy areas as the EU's main new growth strategy aiming to deliver the policy reform needed for the EU's economic growth and climate neutrality.

Widening up the scope beyond Green Deal, and in order to have a complete picture of the policy documents related with CE, we looked at the European legislation platform to identify the documents that mentioned circular economy and each our policy domains: energy, and industry. Figure 2 shows this comprehensive set of documents divided by domain and type. Considering this big bunch of documents, we decided to focus on directives in force for each policy domain combined with the circular economy for a further qualitative assessment.

After these preliminary results for the synergies, we used the official system of classification of European Documents (EuroVoc) to investigate where we could find antagonisms and CE and Climate Mitigation are allocated in the general legislative system. This part of the research is still under development. In the end, our aim is to have a clear picture of the interactions between Circular Economy and Climate Mitigation and how these are integrated in the other policy domains, with the aim of finding strengths and bottlenecks that can inform policy makers and ultimately CO2NSTRUCT climate mitigation scenarios for circular construction.

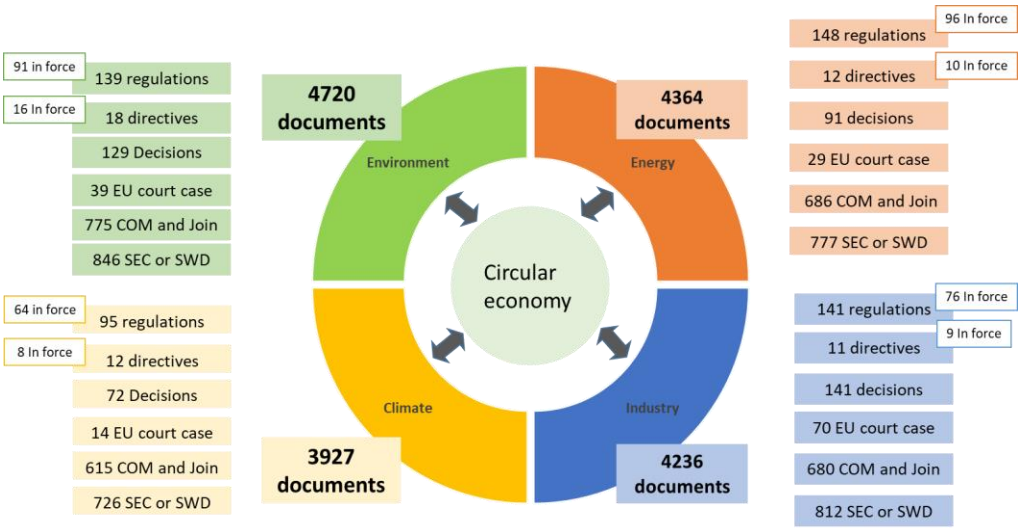

Figure 2. Comprehensive set of documents related with Circular Economy by domain and type

All in all, we found that directives actually in force don´t have a holistic perspective and do not have as objective the transition to circular economy as a whole. On the other hand, it seems that there is very little integration of circular economy and climate mitigation policies at European level. Also, horizontal policies still do not reflect a strong link between CE and CM. This work can provide useful insights on how to integrate CE and CM with a holistic, systemic and long term approach.

Key words: Circular Economy; Climate Mitigation; EU Policy analysis

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