



Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

Surrendering to growth? The European Union's goals for research and technology in the Horizon 2020 framework

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ARTICLE INFO

Article history:

Received 27 January 2016
Received in revised form
26 October 2016
Accepted 31 October 2016
Available online xxx

Keywords:

European Union
Research policy
Sustainability
Degrowth and policy
Information and communication technology
Horizon 2020

ABSTRACT

The European Union is one of the major global players in environmental protection and sustainability policy, and increasingly addresses themes such as human wellbeing, global justice and development. Grounded in the degrowth literature, this paper asks how the European Union measures progress, economic development and the relevance of environmental protection. Specifically, this article aims at tracing degrowth elements in the Horizon 2020 program, i.e. the research and innovation agenda and funding scheme of the Union, which constitutes one of the European Union's major instruments for steering economic development. Employing a frame analysis this research detects a minor agenda pointing beyond conventional growth perspectives; however, conventional growth remains the central focus in the Horizon 2020 framework even where "green growth" measures are discussed. This research shows that this pattern is especially evident in technology policy and schemes related to information and communication technology in particular. The article reflects on the rationales for why the European Union pursues only a minor degrowth agenda. It points to a neoliberal meta-frame and to the effects of path dependency related to the Union's common market conceived of as a driver of prosperity. Finally, the paper identifies comparative policy analysis as a promising area for deeper integration of degrowth theory in political science research.

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1. Introduction

The growing awareness of the finality of crucial resources, the uneven distribution of welfare and evidence of natural destruction through economic activities entered the political agenda in the 1970s. Publications such as "The Silent Spring" (Carson, 1962) and "The Limits to Growth" (Meadows et al., 1972) remain important reference points for critics of the post-war economic growth model and advocates of the degrowth paradigm. While these publications based their arguments on the assumption of an inherent conflict between economic growth and environmental protection, the influential Brundtland Report, "Our Common Future" (WCED, 1987), broke with the understanding of necessary trade-offs between the economic and environmental sphere and popularised the concept of sustainable development. The report defined sustainable development as "a process of change in which the exploitation of resources, the direction of investment, the orientation of technological development, and institutional change are

made consistent with future as well as present needs" and presumed that "technology and social organization can be both managed and improved to make way for a *new era of economic growth*" (WCED, 1987, p. 8–9, emphasis added). As this contribution will elaborate on, the Brundtland Report first hinted at two frames that potentially break up the growth-degrowth dichotomy, namely "green growth" and "beyond GDP", and may help us identify dynamics pointing beyond the "classical growth" paradigm in the European Union today.

After publication of the Brundtland Report the European Union introduced the notion of sustainability as a core value of the polity, suggesting acceptance of the sustainable development concept. However, the evolution of the EU Treaties hints at disputes over the meaning of sustainable development and its link to economic development or growth (for deeper analyses see Lenschow, 2002; Pallemarts, 2013) and the extent to which sustainable development points beyond classical growth remains controversial, both in academia and politics.

This article aims at tracing evidence of the so-called degrowth debate in current economic policy, thus connecting a largely theoretical and normative discussion to dynamics in current policy making. Specifically, this contribution focuses on research and

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development (R&D) policy in the European Union (EU). At first sight, R&D seems a rather improbable field for degrowth dynamics, especially when the original degrowth perspective followed anti-innovation and anti-technology narratives (Stirling, 2007). Yet, R&D policy with technological innovation as an important sub-field was identified as a key to sustainable development already in the Brundtland report. Furthermore, R&D funding and cooperation has emerged as one of the EU's central economic steering instruments in the last three decades (Sandholtz and Zysman, 1992; Peterson and Sharp, 1998; Rossi, 2005), establishing premises for European social and economic development. Therefore, *change* in EU research funding serves as an indicator for a possible shift in the European economic paradigm and an emerging degrowth agenda is likely to be reflected in a reorientation of thematic focus areas and specific instruments in EU R&D policy.

Empirically, this research focuses on the Horizon 2020 program as it allocated 77 billion EUR for R&D between 2014 and 2020, and asks which objectives are tied to this funding and whether any of these objectives connect to notions of degrowth. The analysis pays particular attention to science and technological innovation measures, constituting the largest portion of EU R&D funding (Rossi, 2005), in order to trace any evidence of reframing technological innovation from being a motor for growth to becoming a vehicle for degrowth.¹ This analysis specifically elaborates on the role assigned to information and communication technology (ICT) in Section 4.2.4, given the crucial role of digital innovations for the overall development of societies and economies and more importantly for a transition to sustainability (Heeks, 2002; Melville, 2010), and potentially degrowth.

The paper starts with a review of degrowth research and identifies links to policy analysis, and takes those assessing economic performance beyond the narrow indicator of GDP growth as a benchmark in tracing elements of a degrowth agenda in EU policy documents. Rather than understanding this as a normative position, it is assumed to be a realistic standard for investigating, in all likelihood, at the most incremental steps toward degrowth. In order to detect potentially subtle shifts in EU R&D policy, the paper adopts a frame analysis (chapter 3) and identifies three frames in the EU Horizon 2020 documents (chapter 4): “classical growth”, “green growth” and “beyond GDP”. Of these frames the “classical growth” frame remains clearly dominant, “green growth” appears largely instrumental to the classical growth paradigm, and the “beyond GDP” notions stay at the margins.

The final discussion indicates that while the degrowth concept has moved into the horizon of EU policy makers, technology policy continues to follow the growth-oriented path. This analysis suggests that in an overall neoliberal context the creation of an internationally competitive single market constitutes the core of the EU's political identity and may operate as a barrier for any systematic reorientation toward degrowth scenarios. Although with the economic and financial crisis of the past years, green growth strategies emerged on the agenda of policy makers. The expansion of green growth objectives, which seem strengthened rather than weakened (Falkner, 2016). Thus, using neo-institutionalist terminology, this research argues that a green growth frame in critical EU documents emerged as a sign of “reproductive adaptation” (Streeck and Thelen, 2005) within the dominant – growth-oriented – economic paradigm of the EU. There is little evidence that green

growth could become a step towards a gradual transformation in the European economy ‘beyond GDP’ – a frame that plays only a marginal role in the debate.

2. Theories of degrowth and links to policy

Degrowth analysis typically builds on Georgescu-Roegen's work, which posited that neoliberal economic policy would cause “irreversible damage” by promoting the goal of endless growth (Fournier, 2008, p. 531). More broadly, however, degrowth constitutes a conceptual roof that connects a “variety of forums for circulating, sharing and debating ideas and experiences” (ibid., p. 532). In critical policy analysis this conceptual diversity helps identify the interpretative bases informing different policy goals. Hence, this chapter aims at compiling central theoretical elements of degrowth to use them in the policy analysis.

Within degrowth theory, growth (conventionally measured as growth of the GDP) and sustainability are perceived as incompatible. Premised on a reduction of economic “throughput”, measured by material and energy flows, the question is “how much down-sizing is necessary for sustainability and whether there is an optimal scale of the economy” (Martínez-Alier et al., 2010, p. 1743). From this follows a “critique of growth-orientated ‘solutions’ to environmental degradation” (Fournier, 2008, p. 530), such as efficiency-oriented measures. Instead, reduction in production and consumption is supposed to lead to an end that is “sustainable in the sense of being environmentally and socially beneficial. The paradigmatic proposition of degrowth is therefore that human progress without economic growth is possible” (Schneider et al., 2011, p. 512). Following this argument, the concept of sustainable growth (or green growth) constitutes an oxymoron as it incorporates conventional neoliberal perceptions of economic activity and economic growth (Fournier, 2008, p. 532; Brand, 2012).

Approaching the issue from a policy-making perspective, it seems sensible however to incorporate a wider set of approaches pointing toward a degrowth transition. In this context, novel criteria for measuring – and thus evaluating – economic activity *beyond GDP* are critical. Effects caused by economic growth, especially those that concern nature, natural resources and the services provided by ecosystems, need to be valued. From this perspective, the degrowth paradigm implies alternative meanings of economic activity on a macro level as well as in local contexts, and stands for a change in the principles and frames of reference guiding economic development (Demaria et al., 2013, p. 194; Martínez-Alier et al., 2010). In defining the dependency of modern (western) economies and societies on economic growth as problematic, degrowth theorists propose a shift from an exclusively growth-oriented rationale towards a focus on ecological and social objectives. Thus, it is the aim to gradually embed aspects of degrowth into existing perspectives on economic development (Boonstra and Joosse, 2013) – a perspective that makes elements of the degrowth debate suitable for the proposed policy analysis.

While aiming at “a paradigmatic re-ordering of values, in particular the (re)affirmation of social and ecological values [...]” (Fournier, 2008, p. 532) this interpretation of degrowth not only criticises prevalent political and economic objectives, but attempts to re-politicise economic policy and the economy itself. In operational terms, this re-ordering concentrates on the measurement aspect of development and challenges GDP as the main – and probably only – indicator guiding economic comparison and political decision-making. Indicators not only provide critical data, useful for comparison over time and across places, they also – more critically – frame policy stories around specific core values. Thus, politically, a first step towards a degrowth agenda is the promotion of a wider set of indicators acknowledging the social and

¹ In the Horizon 2020 framework about 46 billion EUR are directly linked to the topics of technology innovation and industrial leadership (including research for technological development and actions of the European Institute of Innovation and Technology) within the total budget of 77 billion EUR. (Regulation No 1291/2013).

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