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Institutions Framing Green Growth in the North

A Report on the Roles of Institutions from the Bottom Up

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1 INTRODUCTION[1]

The main purpose of this report is to synthesise the theoretical approach and empirical observations of the 'Where Does the Green Economy Grow? The Geography of Nordic Sustainability Transitions' project (GONST) from the perspective of institutional theory. The central objective is to provide a general view of institutions and institutional processes that frame and shape green transitions. The report is based primarily on the publications and reports that have been produced by the Team GONST (see references and www.gonst.lu.se/publications).

Governments at all levels of governance have increasingly been adopting the concept of 'green growth' to inform their efforts to boost economic development and confront sustainability issues (Capasso et al., 2019). The basic arguments that guide narratives and policy initiatives revolving around green growth are more focused on economic opportunities than on environmental challenges, though they aim to find a balance between the two (Capasso et al., 2019). In the GONST Project, we followed the OECD (2019) definition of green growth as 'fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies'.

On the basis of their extensive literature review, Capasso et al. (2019) have suggested a need to concentrate on institutions, institutional change and institutional agency, when studying green growth. Each of these factors has an impact on the work of private and public actors as well as higher education institutions and other relevant parties in 'greening' their own operations; thus, they also affect the societies in which they are embedded (Truffer & Coenen, 2012). Institutional arrangements frame and shape not only the emergence of greener development paths but also the ways in which actors pursue green growth. No work occurs in an institutional void, as it is always embedded in multi-scalar institutional arrangements and, accordingly, a complex environment. In this report, we identify types of institutions that influence green growth.

In the GONST project, we focused on agency—especially at the local and regional levels—and acknowledged the importance of extra-regional agency (see e.g. Jolly & Hansen, 2021). Additionally, we endeavoured to highlight the role of institutions in our eight case regions from four countries (Denmark, Finland, Norway and Sweden). Our case studies entailed in-depth analyses of local- and regional-level development activities accompanied by extra-regional efforts and targeted the greening of the economy (for more detail, see Andersen et al., 2019). The data are based on 87 interviews, which were conducted in Denmark, Finland, Norway and Sweden, as well as secondary data (for more detail, see Andersen et al., 2019; Sotarauta et al., 2020).

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2 THE BASIC TENETS OF INSTITUTIONS

2.1 The concept of institutions

Institutions influence city and regional development, industrial path development and sustainability transitions in subtle yet pervasive ways (Gertler, 2010). According to North (1990), they are the ultimate preconditions for the long-term performance of economies. Institutions have been defined as recurrent patterns of behaviour, including habits, conventions and routines (Morgan, 1997), as well as socially constructed rule systems or norms that produce routine-like behaviour (Jepersson, 1991). Thus, they constitute the 'playground' and the 'rules of the game' (North, 1990). Since institutions have historical implications (David, 1994), we must change the very same institutions in which our actions are embedded in order to incentivise and sanction those actions. In other words, institutions are the context in which we operate—all those elements that inform our choices, actions and decisions.

Institutions are commonly differentiated into two types: formal (hard) and informal (soft). Formal institutions refer to universal and transferable rules which generally include constitutions, laws, charters, bylaws and regulations as well as the rule of law, property rights, and contract and competition monitoring systems, for instance. Meanwhile, informal institutions encompass group life attributes, such as norms, traditions and social conventions in addition to interpersonal contacts, relationships and informal networks. Informal institutions are evidently vital for generating trust, and they are highly specific to context and geography.

The basic premise of this report is that green growth essentially concerns institutional change that is both intentional and emergent—changes in dominant mindsets and discourses, industrial structures and ways of operation as well as in regulatory environment and normative assumptions, which include all regulatory, normative and cognitive-cultural aspects (Scott, 2001) that impact the decisions and choices that are made in a particular place.

Regulative institutions are the constraining force in legitimising behaviour. Setting rules, monitoring behaviour and sanctioning certain activities while rewarding others are methods of influencing actors to adhere to a selected path or diverge onto a new one. The basis of compliance is expedience. Normative institutions, which relate to values and norms, introduce an obligatory, evaluative and prescriptive dimension into path development. Social obligation is the foundation of compliance. Normative institutions emphasise factors that guide actors in concluding what is preferred or desirable (Scott, 2001, 51–54). Hence, they also suggest the standards on which the desired path should evolve. Finally, cultural-cognitive institutions draw from external frameworks that affect internal interpretation processes in numerous ways (Scott, 2001, 57). Shared understanding is the basis of compliance. Abolished, renewed or completely new institutions change the ways in which actors see, interpret and understand their role, actions and positions in the context of green growth. In practice, institutions are often in conflict with each other, as they can send mixed messages that various actors may interpret in unique ways.

Table 1. Institutional pillars (Scott, 2001; elaborated by Fünfschilling, 2020)

	Regulative pillar	**Normative pillar**	**Cultural-cognitive pillar**
Basis of compliance	Expedience	Social obligation	Shared understanding
Indicators	Rules, laws, sanctions	Certification, accreditation	Common beliefs
Basis of legitimacy	Legally sanctioned, rule-based sanctions and rewards	Morally governed	Recognizable, culturally supported
Compliance	Avoid sanctions	Meet societal and professional expectations	'Fish in water' – what else is there?
Sanctions	Jail, fines	Social exclusion	Social exclusions, being outsider
Institutional pressure	Coercive (we must comply)	Normative (we should comply)	Mimetic (we copy others)

The extensive literature on path dependency has identified how entire countries, cities, regions, industries and organisations may remain 'trapped' by their past (Martin & Sunley, 2006). In our understanding, such lock-in situations are due to the failure of rigid institutions to adapt to changes in the economy, society and ecology (Unruh, 2000). However, institutions also prevent us from introducing overly dramatic changes to traditional approaches, which could result in novel solutions amongst a particular branch of society and, in turn, cause unexpected results elsewhere in a spatial or structural sense. Institutions, by definition, reduce uncertainty by influencing expectations and providing incentives (Rafiqui, 2009). Indeed, there is a fine nexus between continuity and discontinuity.

2.2 Institutional change

Institutional theories have been criticised for their inability to add analytical leverage to transformation and institutional change, as they typically predicate compliance and conformity. Our position is that the interplay between institutional change and agency is a cornerstone of any effort to study or promote green growth.

In general, there are two main approaches to examining institutional change: the first is to understand and explain processes of institutional change from a bottom-up perspective (regarding processes of deinstitutionalisation and institutionalisation), whereas the second is to comprehend and elucidate the impact of institutions from the top down (in terms of e.g. policies, laws, values, routines, standards; Sotarauta, 2017). Since the GONST project was especially interested in institutional processes, we followed the approach of Streeck and Thelen (2005), who have described gradual transformation as incremental changes that lead to discontinuity. Contrary to the usual argument, we consider incremental changes to concern not only the protection of the existing development path but also the production of institutional discontinuity. Transformation may take place gradually under our standard

scholarly and policy radars. Thus, in accordance with Streeck and Thelen's (2005) concept of gradual transformation as 'creeping change', our view of institutional change emphasises constant change and search as central to any institutional change process that targets the greening of the economy.

The difficulty of any study of institutions is that institutional theory operates at an abstract level. Moreover, since institutions are subjective and often controversial, it is challenging to operationalise them (Rodríguez-Pose, 2013, 1037). Institutions are commonly studied from the top down by using them as generic guides in identifying the 'rules of the game' rather than as analytical tools for investigating the factors that frame the actions and decisions of actors (Sotarauta, 2017). Grillitsch (2014) has maintained that empirical studies of institutions and institutional change have frequently focused on national institutions while overlooking their multi-layered nature. We approached each case individually to capture the complex interplay of institutions between different scales. Consequently, we propose a perspective that extends beyond the rather formalised top-down view of institutions by complementing it with more open, bottom-up approaches. Institutions constitute a complex emergent phenomenon that is perpetually incomplete, provisional and unstable and which coevolves with many other complex phenomena (Jessop, 2001). As Sotarauta (2017) has argued: 'If we focused solely on the top-down effect of institutions, we would neglect the diversity of actors and assume that they are all more or less the same, while it is institutions that differ.'

3 OBSERVATIONS FROM THE CASE STUDIES

3.1 Reflections on institutional pillars

In all cases, we were able to identify a strong policy emphasis in efforts to strengthen the **normative institutional pillar** for green growth. We argue that, in combination, all of the local/regional development strategies and policy initiatives that pursue economic development or green growth in particular construct a social obligation to address the sustainability challenge without neglecting economic concerns in respective regions. They create a 'social environment' in which various actors would voluntarily and willingly seek to comply with the need to green their operations. In this regard, a wide array of policy documents reflects the following aspects: the advancement of a shared awareness of the need to balance ecological and economic concerns, which are the main features of green growth; a collective search for green avenues for specific places; and the new roles of participants in the emerging context. Moreover, in terms of strategy formulation, the vocabulary for discussing green growth in the context of local/regional development has clearly expanded in all of our case regions, and indicators for measuring the progress are being constructed.

Overall, normative institutional pressure to boost green growth is strong. Tentatively, it seems that such pressure has not been leading towards any form of social exclusion in our cases. However, Cavichi (2016) has illustrated that processes of sustainable transition are very subtle. She has also revealed that weak local synergies, plant management and equipment deficiencies, and agriculture-related issues may incite social opposition; in other words, institutions might clash. Furthermore, Jolly and Hansen (2021) have analysed the legitimisation process of the biogas industry in Scania, Sweden (one of the GONST cases). Their results reveal how spillovers from other regional industries, broader regional sectors,

biogas advancements in other places and politics can cause, in our understanding, institutional conflicts that induce a 'dark phase' of green path development. Additionally, the step-by-step transformation of markets could prompt a situation in which non-green businesses are selectively excluded, and regional actors have exhibited some fear of experiencing economic exclusion or missing the opening market opportunities. Since customer values are in flux, it is possible that some companies may be excluded because of their perceived environmental impact; thus, social exclusion might lead to economic exclusion.

We showcase the institutional influences by sharing observations from a few cases. In Värmland, Sweden, businesses have been utilising raw forest products since the early days of industrialisation. The rapid entry of digital media has led to a reduction in demand for newspaper print and printing paper, which has prompted the closure of multiple firms at the global level. Consequently, in the 21st century, Värmland has been gradually diversifying with other bioeconomy-related businesses. Our data especially highlight the prominence of normative and cognitive-cultural institutional pillars in these efforts. While regulative aspects are not irrelevant, changing demand, shared understanding and normative pressure to move towards a bioeconomy have had the most significant impact on the efforts.

Beyond Värmland and Sweden, Europe in general has witnessed substantial pressure to promote the bioeconomy. The Horizon 2020 framework programme and various European technology platforms have generated normative pressure accompanied by strategic guidance and project funding. Moreover, in a vast number of European Regional Smart Specialization Strategies which aim to compel the transformation towards the bioeconomy, instruments range from the promotion of networks and clusters, the development of physical infrastructure, and training and capacity building to technology transfers. Additionally, the Nordic Council of Ministers has implemented several programmes for such purposes; active examples include the Nordic Bioeconomy Panel and national agencies. In Värmland, a collaborative culture and pride for the robust industrial history have galvanised the core actors into making progress and organising accordingly (for more information about Värmland, see Anderssen et al., 2019; Jolly, Grillitsch & Hansen, 2020; Klitkou, Jolly & Suvinen, 2020).

The case of Trøndelag, Norway displays several similarities and differences compared to that of Värmland. Forestry has traditionally been a key business field in Trøndelag, but its role at the national level is fairly minor compared to in Sweden and Finland. Thus, regional cognitive-cultural institutions support a forestry-based bioeconomy but are less developed nationally than the main industries of Norway. Underdeveloped institutional arrangements have an impact on, for example, access to forest resources due to poor infrastructure and underdeveloped logistics as well as financial capital for larger technology projects. The often-challenging political framework conditions and changing taxes and fees do not provide stability (for more detail, see Andersen et al., 2020; Klitkou, 2020).

The **regulative institutional pillar** is central in all of the cases to varying degrees, and industries are regulated differently. In the interviews, participants did not cite any major issues related to regulative institutions; rather, they focused on issues that are either under their own control or within their sphere of influence. Since the regulative institutions are

comprised of extra-regional actors, local and regional actors perceive them as an element to understand, comply with and navigate. However, the major corporations that are present in the case regions seek to influence the regulatory framework in many ways. Local and regional actors mainly achieve compliance by aligning their own strategies with external influences. Regulative institutions are viewed as non-coercive but nevertheless binding.

The case of Hordaland, Norway concerns the electrification of the ferry system. It essentially involves the greening of an existing industry, which includes the entry of new actors into the industry, with respect to electric systems and equipment in particular (for more detail, see Andersen et al., 2012; Sjøtun, 2019). The case of Hordaland exemplifies the importance of regulative institutions, as the maritime sector is heavily guided by global regulation. The regulatory regime that has been developed by the national government and complemented by the International Maritime Organization (IMO) provides guidelines for greener and cleaner ship recycling as well as the reduction of air pollution. Our data also reveal how incentive structures are an institutional barrier to upscaling the electrification of the maritime sector, as the economic incentives to invest in infrastructures for the electrification of ferry harbours are poorly designed. The strong normative pressure to electrify the ferry system is, to some extent, in conflict with the regulative institutional pillar.

Similarly, the greening of the maritime industry in North Jutland, Denmark demonstrates the central role of regulative institutions. This case regards a traditional shipbuilding industry that has become a specialised cluster which focuses on maritime equipment manufacturing and services. As in Hordaland, the IMO, the EU and national authorities are key actors in enforcing regulations. The Danish maritime authority, which operates under the Ministry of Industry, Business and Financial Affairs, is responsible for maintaining the growth of the maritime sector as well as safety, survey and registration, and inspections. The Danish Environmental Agency has been tasked with enforcing the control of emissions from ships, while the Danish Environmental Protection Agency has supported the development of cost-effective technologies to facilitate compliance with international regulations on air quality and the Green Ship of the Future (GSF) initiative (for more detail, see Andersen et al., 2019).

The **cognitive-cultural institutional pillar** appears to be significant in the interview data. There is a general shared understanding that actions must be taken to mitigate issues relating to climate change and other sustainability concerns. This perspective is culturally supported in all of the case countries and regions through the media, conferences, policy workshops and educational programmes, for example. Moreover, it is commonly believed that regional development strategies, industries and individual businesses need to readjust their strategies and business models in view of such massive challenges. Notably, there are immense differences between individual organisations in terms of their capabilities and concrete efforts as well as their willingness to actually carry out transformative actions. In all cases, the cognitive-cultural institutional pillar has clearly changed to support green growth in terms of altering patterns of customer demand as well as in policy documents and the media. Such changing belief systems exert pressure to advance normatively and in a regulative sense.

For instance, in the Tampere region of Finland, many local and regional development strategies are geared towards improve cleantech and the circular economy (see Andersen et al., 2020; Sotarauta & Suvinen, 2019; Sotarauta et al., 2020). Recent development efforts to

green the industries reflect the history of the region. Tampere has accomplished favourable advancements by utilising the forestry, engineering and metal industries and, since the 1990s, the sectors of information and communications technology (ICT), medical technologies and media as well. The region demonstrates a strong shared understanding of its engineering nature and a common belief in technological development. While these perspectives are not universal, there are undoubtedly powerful cognitive-cultural institutions that frame and inform efforts to green the local industries. Cognitive-cultural institutions are reflected in the emergence of cleantech as a guiding theme in multiple public strategies and programmes.

Similarly, in Central Finland, the extensive industrial heritage of forestry-related businesses renders the recent focus on a forest-based bioeconomy self-evident. An increasing global demand for traditional products, such as pulp and packaging materials, and an interest in new wood material solutions have anchored the global demand in regional strongholds and the self-understanding of the regional actors in terms of what their regions do and do not represent.

Table 2. Summary of institutional pillars at play in our case regions from the actors' perspectives

	Regulative pillar	**Normative pillar**	**Cultural-cognitive pillar**
Basis of compliance	*Expedience* Industry-specific regulations dominate, and there is an extra-regional influence.	*Social obligation* There is a strong normative pressure to both promote economic growth and resolve issues of climate change at all levels of policy-making.	*Shared understanding* Generally, there is a collective understanding that actions must be taken, though opinions differ on which measures are most vital.
Indicators	*Rules, laws, sanctions* Industry specific, no data.	*Certification, accreditation* New policy initiatives support green growth and build on earlier policy experiences, with some additions.	*Common beliefs* The importance of green growth is largely accepted; the devil is in industry- and business-specific details.
Basis of legitimacy	*Legally sanctioned, rule-based sanctions and rewards* As the main reward, the green transition and changing regulatory framework is creating new markets in certain industries; those who comply may benefit from unprecedented commercial opportunities.	*Morally governed* Public policies are heavily founded on a green growth ideology, and public development officers comply with the respective policy mix. In the business realm, changes in customer demands as well as the need to generate new demand are influencing industries across sectors.	*Culturally supported* The need to move towards more sustainable regional and industrial development is strongly supported through many core media.
Compliance	*Avoid sanctions* Industry specific, no data.	*Societal and professional expectations* The normative pressure is intense both societally and professionally.	*'Fish in water'* It is not an option to ignore societal pressure to green the economy; however, the devil is in details.
Sanctions	*Jail, fines* Industry specific, no data.	*Social exclusion* If customers exclude certain products and services, market exclusion may occur.	*Social exclusion* If customers exclude certain products and services, market exclusion may occur.
Institutional pressure	In simple terms, the regulative framework is changing in many fields, and it is imperative to be aware of such changes and the modes of compliance.	In general, there is substantial normative pressure.	In summary, it is necessary to comply; modes of compliance can be sourced from globally and nationally circulated ideas and applied to our own strategies.

In a sense, institutional pressures are mimetic by nature, and we identified a significant number of mimetic processes. The green growth models in global circulation are rapidly spreading from place to place, which suggests that nations, countries and individual actors learn from each other to address the urgent need for regulative, social and normative compliance. Therefore, we could argue that our case regions are not constructing their own visions of direct development efforts; rather, they are adopting visions that are already in global circulation, adjusting them to suit their own needs, structures and collaboration patterns, and, in this way, institutionalising them nationally and regionally. The case regions adhere to generic notions but not always to their specificities. Notably, it is not possible to rank the importance of institutions or institutional pillars, as the institutional influence is a complex, multi-layered and multi-scalar process in which various types of institution influence actors as well as one another.

3.2 Institutional change

Our cases confirm Streeck and Thelen's (2005) conclusion that institutional change is 'creeping' in nature. While major investments were made in some of the cases, they did not occur overnight. Institutions of all three pillars have been changing gradually. Moreover, policy makers and other key actors do not believe that drastic changes can be achieved within a short period of time. Instead, they have considered the careful insertion of new elements into existing systems, the generation of processes that may induce institutional changes and the need to engage in long-term debate about green growth and its manifestations in their fields of activity.

In accordance with our empirical analysis and Fünfschilling's (2020) model, and for the purpose of simplification, we divide institutional change processes into three main phases: wakening, concretising and embedding (Figure 1). Each case region has wakened to address green growth and find ways to promote it. In all cases, the core development processes have been organised, and the consensus on how to proceed has been supported by cluster policies or platform policies. Moreover, theories and models that inform the development have been circulated. As normative pressure has intensified, the variance in thinking has diminished. In all regions, we were able to identify support communities that were working to change the institutions to more effectively facilitate green growth. These groups are comprised of actors who have a sense of fellowship with one another as a result of shared attitudes, interests and objectives in terms of their willingness to assist change processes (Sotarauta & Mustikkamäki, 2015). A support community is a crucial enabling factor for an institutionalisation process to continue intact. In a more general sense, the regional economic development system in place as well as industry-specific systems are central to sustaining the processes.

Based on our data and analyses, it is difficult to determine the phase of each case or predict the general progress of the Nordic case regions at the time of writing this report. We cautiously conclude that all of the case regions have surpassed the wakening phase. They are concretising many issues of green growth and have already implemented new institutions that support green growth. Furthermore, many of the practices are still under negotiation, and vested interests have not been fully identified. Although there is scarce resistance to the strategies at the general level, debates regarding the means and ends are ongoing. Figure 1 illustrates a successful institutional change process; nevertheless, as discussed above, even a

well-established green industry may encounter significant difficulties that lead to path deterioration (Jolly & Hansen, 2021). Moreover, it is notable that not all institutional change is positive, and conflict between institutions is inevitable.

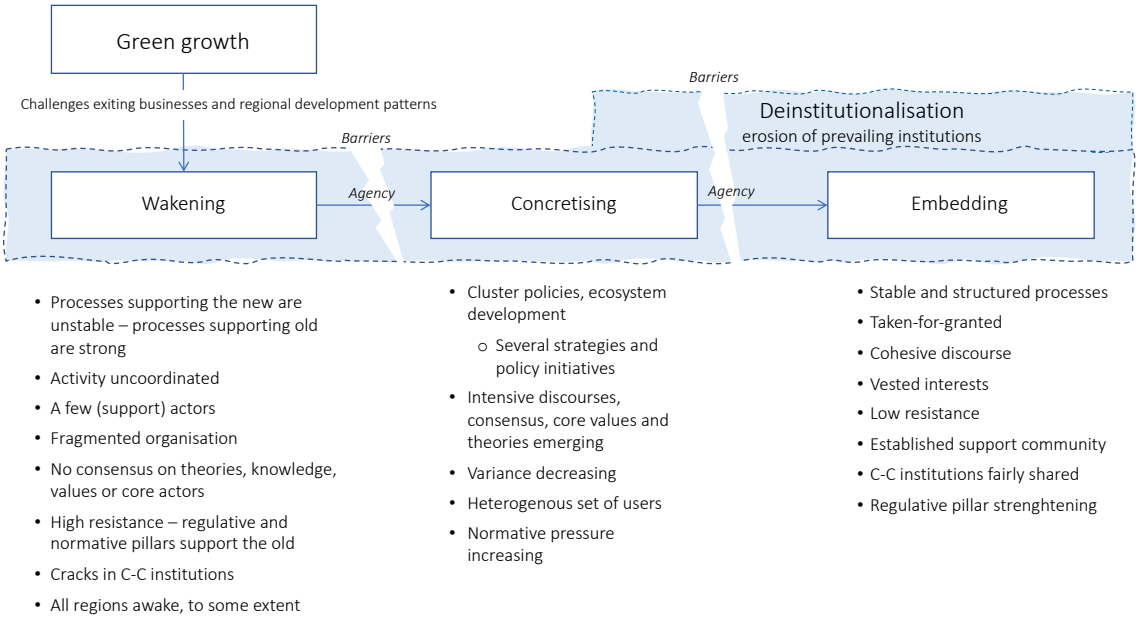

Figure 1. Institutionalisation in three phases (applying Fünfschilling, 2020)

4 Conclusion

This report has briefly discussed our main observations regarding the roles of institutions and the nature of institutional change. Since our intention was to summarise and synthesise, we did not embark on case-specific analyses or case comparisons. Instead, to inform more in-depth future analyses, we reviewed the ways in which institutions manifest to actors. While we acknowledged industry-specific differences, we focused predominantly on general similarities.

Naturally, we have provided only a surface-level discussion of institutions from the bottom up. Still, this report reinforces the importance of gaining a nuanced understanding of the influence of institutions on green transitions in a variety of places and industries. In addition, it emphasises that institutional pressures assume many forms and may even be conflicting; therefore, the process of institutional change results from the alignment of several individual, organisation-based intentions in time and continuous institutional work to navigate 'the institutional labyrinth'.

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