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# How green growth is adopted by local policy – a comparative study of ten second-rank cities in Sweden

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**ABSTRACT**

The 1992 Rio Earth Summit represented a crucial point in time at which the key role of the local level for sustainable development was importantly endorsed. However, since this UN summit, ideals about how to design local sustainable development have changed significantly. This paper investigates how local policy in ten second-rank cities in Sweden has adopted decoupling arguments and endorsed green growth concepts established through international governance communities. Using content analysis of politically ratified steering documents in these cities, the main findings suggest that local strategising related to the policy goals of green growth is mainly related to energy efficiency. Derived from the decoupling argument, one factor behind shallow integration of green growth into municipal policy is that green growth could be considered a political and contested concept. The fact that there has been limited implementation of this framework across the investigated municipalities prompts reflections on how the results could be explained by institutional 'match' or 'mismatch' between local institutional environments for policy interventions and the green growth concepts promoted by international communities. The adoption of green growth concepts requires local authorities to broaden their commitment for interventions in interactions with industry and business.

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## Introduction

Environmental threats are global problems with global effects. These threats have motivated international initiatives and collaborations, including a series of UN summits. These summits have encouraged international initiatives and collaborations, while emphasising the importance of local actions. The 1992 Earth Summit in Rio de Janeiro endorsed the use of local level actions for sustainable development in the non-binding Local Agenda 21 (Ely, Smith, Stirling, Leach, & Scoones, 2013; Lawhon & Patel, 2013). The ideal of

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acting locally while thinking globally became a central motto. Since the Rio summit, local initiatives have been an important focus for sustainable development policy.

Local Agenda 21 encourages local authorities to engage local social actors (e.g. the local population, businesses and NGOs) in dialogue, collaboration, and initiatives (Kveton, Louda, Slavik, & Pelucha, 2014; Wittmayer, van Steenbergen, Rok, & Roorda, 2016). In Sweden – which is the empirical context for this paper – most municipalities set up Local Agenda 21 offices to implement this policy. This commitment demonstrates that Local Agenda 21 had a high degree of 'match' with the institutional environments for policy intervention on the local level in Sweden. Although these offices have now been closed for several years, the experiences and learnings that the municipalities gained from working with sustainable development have most likely remained. Consequently, cities continue to implement many initiatives and interventions aimed at climate change mitigation. These are integrated in complex structures of governance that are scalar, horizontal, and involve relations across sectors (Bulkeley & Betsill, 2005). However, these interactions are unevenly developed, and local environmental policy and planning come in different formats (Bulkeley & Castán Broto, 2013).

In a wider perspective, local authorities prioritise initiatives for sustainable development in a variety of ways, conceiving their actions as 'climate change governance'. Hence, local authorities have become the lead partners or collaboration partners for sustainable development initiatives. Relationships and networks for such initiatives may include platforms, consultants, commitment brokers and advocates (Busch, 2015).

Although the role of local authorities in sustainable development appears to be consolidated and gradually expanding, it is important to understand how this role is reconceptualised through re-directions of the ideals that drive policy interventions. One such redirection, which is addressed in this article, is the decoupling argument. This argument is a basis for the proliferation of a 'developmentally driven sustainable development agenda' (Lawhon & Patel, 2013, p. 1055) and is endorsed by major global actors (Fletcher & Rammelt, 2017). OECD has incorporated this argument through the concept of green growth. Green growth assumes that environmental qualities cannot be separated from economic development: 'Most importantly, good economic policy lies at the heart of any strategy for green growth' (OECD, 2011, p. 10; c.f. Borel-Saladin & Turok, 2013). This article examines how decoupling ideals affect green growth policies at the local level.

During recent years, international communities have endorsed sustainable development through the use of growth agendas, including the concept of green growth. Although this approach focuses on the business society it also addresses other stakeholders and constellations of actors which may be involved in the initiatives. The position and role of the local authority in such initiatives is contingent upon particular settings and situations (Wittmayer et al., 2016). It is therefore relevant to investigate how such international ideals are translated at the local level. The adoption of ideals of green growth by local authorities may reflect that the local authority sees itself as a lead partner for governance and strategic planning (Albrechts, 2004). As a lead partner, local authorities will need to create policies that encourage the private sector to adopt green growth concepts. Consequently, it is to be expected that the adoption of green growth ideals for local policy will vary due to varying institutional environments and trajectories including political and governance constellations, networks and social capital (cf. Gibbs & O'Neill, 2017). These variations are between national systems and between cities within the same national system.

The aim of this article is to explore the way that local authorities use policies to adopt, adapt and apply the concepts of green growth as promoted through international communities. This article adds to the current debates on green growth by revealing how much and in which ways green growth concepts trickle down to the local level. This aim is achieved in two steps. First, we performed a literature review to operationalise the concept of green growth for empirical study. Second, we compared the ways in which ten second-ranked cities in Sweden adopted policies for green growth. The concluding discussion reflects on how the results could be explained by institutional 'match' or 'mismatch' between local institutional environments for policy interventions and the green growth concepts promoted by international communities.

This article is structured in five sections. Following this introductory section, we present a literature review to define the concepts of green growth. Section three discusses the national context in Sweden for local policy, the selection of ten Swedish municipalities for the empirical study, the empirical material, and the methods used. Section four identifies policies for green growth for the ten cities. Section five presents conclusions and reflections on the uneven and also rather marginal impact that green growth concepts have had on policy in the investigated cities.

## Green growth – decoupling and governance

The vision of green growth reflects the ideal of decoupling economic growth from environmental impacts (Fletcher & Rammelt, 2017; Gibbs, 2006). Decoupling has been adopted for concepts that assume environmental development and economic growth can progress in parallel – i.e. a win-win outcome (Bina, 2013). This assumption is expressed by the UN: '[T]here is now a growing recognition that achieving sustainability rests almost entirely on getting the economy right' (UNEP, 2011, p. 1). This decoupling argument has been integrated and explicitly defined in the UN's development goals (Fletcher & Rammelt, 2017):

> [A] growing discussion of the potential to separate sustained economic growth from its environmental impact […] is fast becoming a central component of the post-2015 development agenda grounded in the United Nations' (UN) newly-minted Sustainable Development Goals (SDGs). Indeed, one could argue that decoupling is foundational to this agenda. (Fletcher & Rammelt, 2017, pp. 450–451)

Since the introduction of decoupling ideals, the OECD and the EU have reiterated this argument in different political frameworks and publications (Fletcher & Rammelt, 2017, p. 452). The UN's concept of green economy is wider than the OECD's concept of green growth. The discussion of green economy is broad and includes social aspects and poverty reduction. In contrast to this, green growth is narrow as it mainly addresses economic activities (Borel-Saladin & Turok, 2013) and is a stronger endorsement for decoupling and growth agendas.

More concretely, the argument for decoupling centres on the possibility of promoting 'non-material economic growth' (Fletcher & Rammelt, 2017, p. 455). This line of argumentation has triggered an interest in developing circular economies through which commodities are dematerialised. Innovation is an important means of achieving such development (Fletcher & Rammelt, 2017): 'a transition to a greener economy offers

more than environmental sustainability – it can also serve as an engine for innovation, growth and resilient regions' (Mikkola, Randall, & Hagberg, 2016, p. 6). Eco-innovation is assumed to be an important means for green growth (Crespi, Mazzanti, & Managi, 2016). The political concept of green growth has an academic counterpart in the theory of ecological modernisation (Gibbs, 2006; Skovgaard, 2014).

As green growth involves a quest for knowledge development, learning, and innovation, some scholars have turned their attention to how this process takes place. This involves to examining how local governments and local actors collaborate to co-create: 'Co-creation means interactivity, mutual engagement and shared learning and communication between problem solvers' (Barrutia & Echebarria, 2012, p. 1365). Coordination of resources across organisations and sectors (including 'hybrid' arrangements) involve forging alignments between various local economic and non-economic actors (Davies, 2013; Ely et al., 2013). Linking across diverse actors and knowledge fields is an important point of departure for understanding how innovations influence green growth (Dente, Bobbio, & Spada, 2005). Aspects of green growth address transitions, developments and innovations. As local policy has come into focus, the debates on public sector innovation (Bloch & Bugge, 2013) and urban experiments have become highly relevant (Bulkeley & Castán Broto, 2013; Evans, 2016).

Although it may be generalised that the local level and the city are important for sustainable development policy and initiatives for green growth (Jonas, Gibbs, & While, 2011), particular constellations and relations of the main actors in governance differ. Compared to the ideals underpinning Local Agenda 21, which addressed a 'community wide participatory' strategy (Barrutia, Echebarria, Paredes, Hartmann, & Apaolaza, 2015, p. 594), green growth focuses on how the public sector, business sector, and R&D institutions (e.g. universities) can join forces to achieve combined economic and environmental improvements. During the 2002 UN Earth summit in Johannesburg, delegates endorsed collaborative private-public partnerships, a focus that continued through the Rio + 20 summit in 2012 (Ely et al., 2013). Successful Nordic regional green growth practices are found to involve collaboration between academia, public sector, and business sector (Mikkola et al., 2016).

It is also important to recognise that both decoupling and green growth are normative concepts, representing a contested ideal that has attracted critical assessments (Caprotti & Bailey, 2014; Fletcher & Rammelt, 2017). An 'absolute decoupling' argues for establishing closed material cycles, a supposed unachievable goal (Fletcher & Rammelt, 2017). Moreover, such a grand goal could be a source of dilemmas for local authorities as the local authorities must balance social, environmental and economic concerns and responsibilities. The adoption of green growth through local policy implies prioritising how the local government's resources are to be used and distributed (Gibbs & Kreuger, 2012).

## *Recognising the adoption of green growth for local policy*

To study the adoption of green growth policies in ten second-rank cities in Sweden, the concept itself needs to be operationalised. As 'green growth' is an umbrella term, it cannot be expected to be the only concept used in local policy to describe such ambitions. To that end, we reviewed the recent academic debate on this topic. This review centres on combinations of the following key words: policy, growth, geography, and sustainable

**Table 1.** Concepts reflecting ideals of green growth, in alphabetical order.

| Concepts | Quotes with key words in italics |
|---|---|
| Circular economy | 'The CE [*circular economy*] has been defined as: an industrial system that is restorative or regenerative by intention and design […]'. (Hobson, 2016, p. 88) |
| Clean tech firms/green construction industries | 'In this article, *cleantech firms* are defined as firms that develop and sell products, solutions, or technologies that improve the environment – either directly or through a more efficient utilisation of resources … Consequently, even though most firms come from industries, such as renewable energy, water filtration, and *green construction*, the definition does not exclude firms from industries that are generally not considered part of the cleantech sector […]'. (Hansen, 2014, p. 381) |
| Clean technologies, corporate environmentalism, environmental management | 'Thus, does the current mix of reductions in the intensity of materials and use of resources, environmental policies, the adoption of *environmental management* systems, green consumerism, *clean technologies*, and *corporate environmentalism* provide the constituent elements of a new mode of social regulation?'. (Gibbs, 2006, p. 204) |
| Decoupling | 'For proponents, *decoupling* entails increasing the efficiency with which value is derived from natural resources in order to reconcile indefinite economic growth with environmental sustainability'. (Fletcher & Rammelt, 2017, p. 450) |
| Eco-industry sector | '[…] scholars link green growth and green economies to the promising changes in the *ecoindustry* sector, shifting from downstream environmental protection technology to resource-saving technologies, based on innovation and competitive markets'. (Bina, 2013, p. 1024) |
| Eco-innovation | 'RioCentro debates focused on "green economy" and "green growth" narratives, including new institutional mechanisms to incentivise *ecoinnovation* and transfer of cleaner technologies'. (Ely et al., 2013, p. 1067) |
| Ecological modernisation | '*Ecological Modernisation* is a policy [which] defines the relationship between the environment and economic growth as (potentially) synergetic: the right policy can improve the state of the environment while spurring (or at least without damaging) economic growth'. (Skovgaard, 2014, p. 2) |
| Energy efficiency, renewable energy technologies | 'According to Ecological Modernisation, the right policies (focusing among others on *renewable energy technologies* and *energy efficiency*) *may* achieve environmental objectives without damaging (perhaps even increasing) economic growth'. (Skovgaard, 2014, pp. 5–6) |
| (Green) capital accumulation | 'a more multiple process, creating a splintered landscape of urban energy regimes which co-exist, compete and conflict, driven by the new possibilities of *(green) capital accumulation* […]'. (Bulkeley et al., 2014, p. 1480) |
| Green economy | 'The ideas at the core of the *green economy* discourse – valuing natural assets correctly, investing in natural assets, looking for actions that can deliver economic, social and environmental benefits simultaneously, not only were already articulated 20 years ago, but have been put in practice in concrete policies, programmes and projects'. (Le Blanc, 2011, p. 153) |
| Green industrialisation | '*Green industrialisation* approaches emerging in and around Rio + 20 include the Global Green Growth Institute (3Gi); the World Bank's initiatives around its report on "inclusive green growth"; the OECD's work on green growth and sustainable development […]'. (Ely et al., 2013, p. 1068) |
| Green jobs | 'The term "*green job*" is a loose one […] so far it has been used both in relation to employment in pollution control, energy efficiency and waste management as well as in a broader sense, that is, referring to occupations in agriculture, industry, and services that contribute to preserving or restoring the quality of the environment'. (Cecere & Mazzanti, 2017, p. 87) |
| Green tech cluster | '[…] *green-tech cluster* initiatives supporting future regional competitiveness and job growth […]'. (Truffer & Coenen, 2012, p. 14) |
| Green technology | 'In existing urban centres, a further, related factor is the aim to revitalise urban centres socioeconomically by shifting away from old industries to new knowledge-based, *green technology* and creative industries, as illustrated by Hamburg-Harburg (Germany), Kalundborg (Denmark), Malmo, and MenTouGou'. (Joss, 2011, p. 280) |
| Industrial symbiosis resource efficiency | '[*Industrial symbiosis*] … has graduated from academic curiosity to practical tool supported by policy makers, business organisations and environmental NGOs alike – to address a broad policy agenda encompassing innovation, green growth and economic development in addition to the traditional focus on *resource efficiency*'. (Lombardi et al., 2012, p. 2) |

(*Continued*)

**Table 1.** Continued.

| Concepts | Quotes with key words in italics |
|---|---|
| Low-carbon initiatives/ economy/s | '*low-carbon initiatives* – attempts to reduce greenhouse gas emissions and so mitigate climate change – and the development of a *low-carbon economy* […]. Policy-makers have increasingly come to recognise that the resultant shift to a greener future also offers the prospect of a more resilient and sustainable economy in the future'. (Gibbs & O'Neill, 2017, p. 162) |
| Resource management | '*Resource Management* (RM) […] believes green growth is possible. […] environmental harm is seen as externalities that can be handled within markets […]'. (Damonte, 2014, p. 23) |
| Smart specialisation/ city | 'The *smart specialization* concept is now a major driving force behind both the new "Innovation Union" flagship programme of the European Commission and also the EU cohesion policy reforms'. (McCann & Ortega-Argilés, 2015, p. 1292) 'The *smart city* can be understood as an urban strategy that seeks advanced technological solutions to the pressing issues facing policy-makers today, among which climate change has taken centre stage'. (Viitanen & Kingston, 2014, p. 803) |

development. This review revealed several related concepts and ideas aligned with the above-stated definitions of green growth. The concepts share three common characteristics: they adhere to the decoupling agenda; they centre on economic growth through innovations; and they suggest that green growth implies governance (Table 1). Here, governance involves coordinating, mobilising, and convincing social actors to take specific actions. In addition, the concepts in Table 1 demonstrate how these ideas often focus on low-carbon development and sustainable energy resources (Bina, 2013) (i.e. renewables, energy efficiency, the circular economy), emphasising the importance of technology (i.e. clean tech, green tech, smart growth, smart cities).

The selection of concepts for inclusion in the analysis was guided by the focus of this paper. Keeping the focus on references to industry and economic development, this study does not use 'place-centred' terms such as green cities, eco-cities, transition towns and energy cities (Jonas et al., 2011; Rohracher & Späth, 2014), although one exception is the use of the term 'smart city' in Table 1. This term is used because it refers to innovation and economic development as well as place. For example, Viitanen and Kingston (2014, p. 804) have argued that 'smart cities can be understood as marketplaces for technology products and services'. At the same time, some of the terminology in Table 1 explicitly points to the interconnection between green growth and city planning – i.e. green construction. This interconnection reflects a general trend in local spatial planning to widen its perspective 'to take more explicit account of issues such as promoting economic development, environmental protection, and the provision of social infrastructure' (Haughton, Allmendinger, Counsell, & Vigar, 2010, p. 5). This perspective means that what may superficially be understood as separate spheres of physical planning and policy for economic growth have become integrated to some extent.

The concepts in Table 1 also illustrate the fact that implementing ideas of green growth on the local level stipulates working through governance. Institutional and linking capacities of local authorities are assumed to be important components facilitating green growth initiatives. Governance involving the private sector may mobilise knowledge, financial resources, and other resources and may inspire non-public actors to take steps towards sustainable development goals. Such interaction includes informal 'soft governance' rather than 'hard governance', which is characterised by spatial planning that relies on formal regulations (Thomas & Littlewood, 2010).

## Empirical case – local policy for green growth

Understanding the context for Swedish local policy requires some understanding of Sweden's multi-level political system. Sweden's political administrative system has three levels: national, regional, and local. Here, municipalities, local authorities, and cities refer to the local level. Although these words have overlapping meanings, we refer to municipalities as the territory as well as the formal political administrative body. In addition, we label local authorities as the local political body when referring to international research. In Sweden, the use of 'cities' is a less formal term for the local authority or the municipality to describe urban interventions and processes.

Although the local municipalities in Sweden have extensive financial resources and substantial capacities to implement policies, the national government establishes regulations and general policy programmes that strongly impact regional and local interventions. Furthermore, green growth policies are much more pronounced in national economic growth policy than in local interventions and programmes for ecological sustainable development. For example, the framework programme 'A national strategy for sustainable regional growth and attractiveness' (Swedish Government, 2015) presents green growth as an 'efficient' business model. This approach is reinforced and clarified through the Swedish Agency for Economic and Regional Growth (n.d.). This agency presents ideals aligning with resource management by stating that 'environmental harm is seen as externalities that can be handled within markets, by defining the individual responsibility for depletion and by fostering innovation' (Damonte, 2014, p. 23). In addition, national programmes also align with governance involving cross-sector collaborations focusing on innovation (Ministry of Enterprise and Innovation, 2017). Figure 1 illustrates how the national strategy for green growth is positioned in multi-scalar relations with EU and subnational levels.

Sweden is divided into 290 municipalities of varying sizes. Most of these are quite small in terms of population. All the municipalities adhere to the same regulations irrespective of their population or geographic size. Compared to many other countries, municipalities

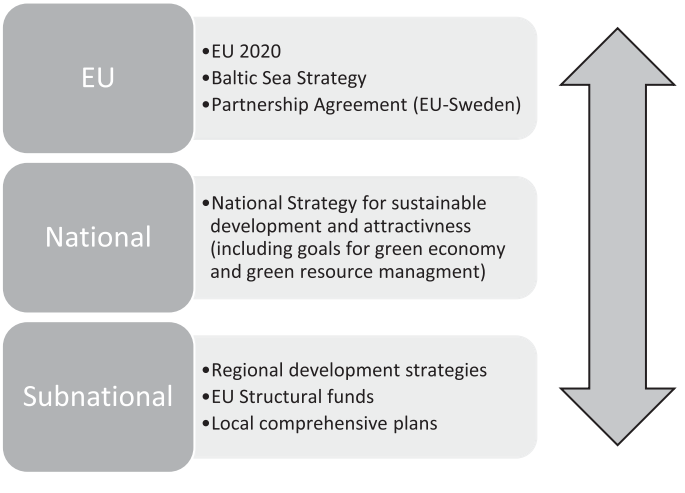


**Figure 1.** Model for multiscale structure for regional development policy in Sweden. Source: Swedish Government (2015, p. 13).

in Sweden have strong sovereignty and considerable financial resources via local income tax. In Sweden, the multi-level government structure promotes a strong state and strong municipalities but weak regional administrations. This is a government structure that may be considered less appropriate in the context of strong focus on regions through the EU. Thus, in some respects, municipalities in Sweden are involved in what other EU countries would consider regional responsibilities for territorial governance with respect to the promotion of regional development. Territorial governance involves integrating policy domains, coordinating activities across organisations, and mobilising actors to be involved (Schmitt & Van Well, 2016).

## Local liabilities, incentives, and capacities

As mentioned above, most Swedish municipalities became extensively involved in the initial wave of Local Agenda 21 interventions following the 1992 Earth Summit. Hence, it is intriguing to investigate how these municipalities have adopted a second wave of models for sustainable development represented by the decoupling agenda and green growth concepts. This is the question in focus for this section of the article.

It can be assumed that the conditions for local authorities to intervene in actions for green growth are related to their different engagement in the two 'sides' of this policy ideal – dealing with ecological concerns and engaging in industry development. In Sweden, several tasks relating to ecological sustainability are mandatory for municipalities, including building permit administration, local infrastructure development, energy policy and interventions, waste and water management, and environmental inspections and environmental assessments for planning. In contrast, most facets of economic sustainability (e.g. investments, economic growth, and industry development) concern non-obligatory tasks for the municipalities and areas where municipalities are not the main implementer. Since the 1980s, however, expectations on municipalities have increased substantially with respect to setting policy goals and taking initiatives to leverage local economic and industry development. Municipalities set up local industry offices to provide opportunities for interactions with the local business community. These local offices are responsible for the following tasks: facilitating the establishment of local networks across organisations and businesses; facilitating communication between local businesses and municipalities regarding local physical planning, building permits, and other permits for businesses; and facilitating the supply of a competent workforce. Thus, municipalities are provided with the capacity to interact with local businesses, an important resource for municipalities that aim to adopt green growth policies (Andersson, 2016).

However, it is also widely agreed that the capacity to make local interventions for economic development and sustainable development vary with the size of the municipality. Rural and smaller municipalities are found to be less active in these matters because they have fewer resources (e.g. funds, staff, and networks) (Fallon & Sullivan, 2014: Hermelin, 2016). Much attention has been paid to transitions and experimentation for sustainable development in large urban environments (e.g. Bulkeley & Castán Broto, 2013), and there are many case studies on local policy interventions (Nogueiro & Ramos, 2014). To complement this research area, this article focuses on middle-sized municipalities (to complement the strong focus of research on the largest cities) and a

comparative study among ten municipalities (to complement the strong focus of research on single-case case studies).

The discussions and elaborations of the development of second-rank cities by Camagni and Capello (2015) inspired us to select the sample of ten middle-sized municipalities for our study as such geographies are under-researched. Compared with small and rural cities and towns, the second-rank cities represent substantial resources (e.g. funds, staff, skill, and networks). Compared with big cities, second-rank cities may be better equipped to respond to particular initiatives that promote change and development (cf. Camagni & Capello, 2015; Strambach & Halkier, 2013). That is, the size of cities is assumed to influence how cities respond to specific conditions and processes.

## Case selection, empirical material, and method

Above, the notions of second-rank and middle-sized cities were used interchangeably. In this study, the notion of second-rank cities (and municipalities) will be most appropriate as the sample of cities is examined with respect to the national municipal system. In terms of size of population and labour force, these cities are the ten largest urban centres after the three major cities in Sweden, namely Stockholm, Gothenburg, and Malmö. Because Sweden is a sparsely populated country, the cities included in this study have fairly small populations, between 100,000 and 200,000 inhabitants. This is the aggregated population of the municipalities including the urban centres, smaller settlements, and rural areas. Taken together, the population of the ten municipalities corresponds to 14% of the total national population and 15% of the national labour force (Table 2). Nine of the ten municipalities are located in central and southern Sweden (Figure 2).

The empirical work for this study included gathering data from budget documents, comprehensive plans, vision documents and owner directives for municipality-owned companies (e.g. utility companies, harbour companies, real estate companies and industry development companies). This broad collection of documents represents important background sources used to conceive the general approach to green growth in the different cities.

However, in the more detailed analysis, which is described in the next section, only the yearly ratified budget document for each municipality is included.[1] Municipalities are

**Table 2.** Population and size of daytime labour force in gainful employment in the ten municipalities included in the study (data for 2016). Source: Statistics Sweden.

| | Population | Labour force |
|---|---|---|
| Uppsala | 214,559 | 104,643 |
| Linköping | 155,817 | 83,013 |
| Norrköping | 139,363 | 65,034 |
| Jönköping | 135,297 | 73,151 |
| Lund | 118,542 | 69,810 |
| Helsingborg | 140,547 | 70,923 |
| Borås | 109,880 | 57,478 |
| Örebro | 146,631 | 75,816 |
| Västerås | 147,420 | 71,801 |
| Umeå | 122,892 | 65,278 |


**Figure 2.** Location of the cities included in the paper. Source: own production.

required to make an annual budget, a task that also includes defining the initiatives for the coming year, and to present an outlook for an additional two years. These documents range between 60 and 175 pages, depending on the level of detail. The budget work is part of the municipalities' yearly management cycle, which also involves assessing and auditing of the previous year's budget. Although the budget is a document describing policy and plans for the future, the impending audit means that the budget needs to be concrete and restricted to what is realistic. This is in contrast to documents which look farther into the future, like visions and which may be more speculative.

The budget documents describe what policies the municipalities want to emphasise and the overall prioritising of policy interventions. In this capacity, the budget documents present both policy ideals as well as the annual plans for costs and revenues. Thus, the empirical material captures how the policies of local governments prioritise green growth. However, empirical material is not comprehensive with regard to all the local interventions that the municipalities perform and it is also restricted to a particular year. Therefore, this comparative approach analyses how policy and ideals are formulated on a general level and not for detailed interventions.

The concepts in Table 1 guide the empirical analysis in this paper. In the empirical analysis of the selected budget documents, we search for expressions aligning with green growth concepts However, this study does not simply count words: it uses content analysis (cf. White & Marsh, 2006) to perform a qualitative assessment of the documents. The concepts in Table 1 are used as the starting point for the qualitative assessment. The analysis was conducted in two steps: (1) searching for the concepts (Table 1) and (2) assessing how these concepts are embedded in the empirical material and whether these concepts are related to green growth as defined in the above literature review.

This is a different approach compared to a simple word count procedure, which was avoided for several reasons. First, although annual ratification of the budget is compulsory, the particular design and structure of the budget documents vary. Thus, municipalities with long narrative budget documents may explicitly mention green growth concepts more frequently than municipalities with short budget documents. Second, through the qualitative content analysis additional concepts or terms than these listed in Table 1 might be identified. Therefore, this two-step procedure validates the findings.

At the same time, the scope of comparing ten municipalities and limiting the empirical data to secondary sources has restricted us from pursuing a more in-depth qualitative analysis. This paper does not discuss the underlying causes of how and why the adoption of green growth policy varies between the cities, although this could be a fruitful focus for future research.

## Ten municipalities compared

Although the adoption of green growth discourses varies between the different municipalities in this study, all the municipalities' budget documents refer to 'sustainable development' (in Swedish '*hållbar utveckling*'). In addition, all the municipalities target energy efficiency as a part of sustainable development (Table 4). The ten municipalities can be divided into four categories (Table 3) based on the integration of policy for green growth and on whether such policies focus on the interaction between the public sector organisations and business organisations.

Five of the municipalities – Jönköping, Lund, Norrköping, Umeå, and Västerås – are placed into the first category (Table 3, upper left). These are assessed as being not very committed to the adoption of green growth based on the absence of decoupling arguments that ecological and economic sustainability should be considered mutually supportive. The municipalities in this category express their standpoint for sustainable development in rather general terms. For example, Umeå argues simply that '[our] growth will be secured with social, ecological and economic sustainability' (Umeå, 2016, p. 3), whereas

**Table 3.** Overview of policy among ten municipalities regarding green growth adoption and reliance on governance for its realisation.

| | Sporadic or non-committal adoption of green growth | Comparative frequent and explicit adoption of green growth |
|---|---|---|
| Weak or no reliance on public-private governance | Jönköping<br>Lund<br>Norrköping<br>Umeå<br>Västerås | Linköping |
| Explicit reliance on public-private governance | Borås | Helsingborg<br>Uppsala<br>Örebro |

Lund claims that '[we] have sustainable development with balanced growth' (Lund, 2016, p. 19), without providing further details of what these desirable development trajectories towards sustainable development would entail or whether governance processes will be necessary to achieve such ambitions.

The second category (Table 3, lower left) includes the city of Borås. This municipality is also rather general in its approach towards green growth, although it differs from the previous category as it describes the importance of platforms and networks that facilitate interaction between the city and the local business community to obtain sustainable development. This approach is compatible with governance and is open to collaboration with the business sector: 'Borås city aims to develop competence for how the city can support and facilitate business organizations with ambitions to strengthen their sustainable work' (Borås, 2016, p. 9).

Linköping is the sole city in the third category (Table 3, upper right). Although this city presents comparatively explicit views on green growth, it does not spell out how such ambitions rely on governance interaction. Nonetheless, Linköping's decision to sign the Covenant of Mayors for Climate and Energy in 2009 operates as a backdrop to the budget and ties the city to an overarching goal of becoming carbon neutral in 2025. To reach such a goal, the budget declares plans for interventions. This means that planning how local businesses can be involved in this work will be required in the near future. So far, however, Linköping seems to be in the 'starting blocks' for governance and collaboration with the business sector compared to the three cities described below.

The fourth category (Table 3, lower right) includes Helsingborg, Uppsala, and Örebro, cities whose budgets have adopted the green growth discourse most extensively. These cities display a comparatively broader scope of green growth policies and the interactions with the business sector are explicitly expressed. In addition, Uppsala and Örebro stress that green growth should be contextualised into wider scalar relations and express a desire to be part of EU policy goals or the global goals of Agenda 2030. The municipalities of Uppsala, Örebro and Helsingborg express commitments to be leading partners for initiating processes with the local business community through strategic planning, albeit in different sectors. Uppsala plans to support the development of tourism, whereas Örebro and Helsingborg plan to support the development of locally produced food.

One of Helsingborg's goals explicitly expresses a commitment to develop policies that improve the environment and mitigate climate change. Helsingborg stresses the importance of developing technology and research to achieve sustainable development, which signals alignments with ideals from ecological modernity:

**Table 4.** Green growth concepts referred to in the investigated budget documents. Note: (x) represents aims for green procurement and which is conceived an facet of resource management.

| | Municipality | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Concepts adopted in budget | Jönköping | Lund | Norrköping | Umeå | Västerås | Borås | Linköping | Helsingborg | Uppsala | Örebro |
| Cleantech firms | | | | | | | | | x | |
| Energy efficiency | x | x | x | x | x | x | x | x | x | x |
| Green industries/industrialisation | | | | | | | | | | x |
| Green jobs | | | | | | | | | | x |
| Resource efficiency | x | x | x | x | | | x | | x | |
| Resource management | | | (x) | | (x) | (x) | (x) | (x) | (x) | x(x) |
| Smart specialisation | | | | | | | x | x | x | x |

> Helsingborg shall develop work for environmental sustainability through technology and research and in this way develop new methods and tools to meet the climate challenge. (Helsingborg, 2016, p. 19)

> Helsingborg shall be in the front line regarding energy-efficient housing construction. (Helsingborg, 2016, p. 19)

This city also aims to influence the business sector towards sustainability:

> The importance of environmental certification for events with applications for food, drink, transport, waste and energy. (Helsingborg, 2016, p. 80)

In Örebro, the first strategic goal is 'sustainable growth' that results in win-win relations between economic and environmental needs. The city defines itself as the regional leader for development in the region:

> [Örebro aims to establish] a climate network where the municipality and a number of companies that have large climate impact, or that are role models in their line of business, work closely together to reach our climate goals. (Örebro, 2016, p. 56)

Compared to the other municipalities, Uppsala most strongly stresses the link between innovations and green growth. Uppsala's budget illustrates how the city aims to encourage green growth through mobilisation of its own organisation, municipality-owned companies, and interactions with the local business community. The budget reinforces the importance of increasing collaboration with universities, the business community, the university hospital, and other research-intensive environments:

> The budget commissions all political boards to facilitate for innovations in their own operations and to offer test beds for new technologies, smart services and climate-smart innovations. (Uppsala, 2016, p. 122)

> The companies owned by the municipality are obliged to work with environmental management and energy efficiency. The companies shall support applications of new energy technology […] climate-neutral transport and materials with strong environmental performance. (Uppsala, 2016, p. 68)

### *Iterative movements between word count and qualitative content analysis*

Whereas the previous section was primarily a qualitative comparative discussion, this section uses a quantitative analysis to investigate the frequency and range of concepts adopted in the budget documents that relate to green growth concepts. In this way, the qualitative and quantitative results are compared. This form of analysis helps elucidate whether cities with explicit or integrated adoption of some aspects of green growth ideals (as explored above) also entail a comparatively broad approach to green growth encompassing different aspects of the decoupling argument. Compared to the concepts in Table 1, only a few concepts related to green growth were identified in the empirical material. Table 4 illustrates the concepts found in each of the municipalities' budget documents.

In this study, energy and resource efficiency were the most frequent concepts driving policy for all cities. This finding reflects the fact that in Sweden municipalities are largely responsible for developing and maintaining local infrastructure, including waste

and water management and energy provisioning (Magnusson, 2016). For seven of the ten investigated cities, the local utility plants are owned by the municipality. The private energy companies in Uppsala, Örebro and Norrköping (i.e. E.ON and Vattenfall) operate on national and international levels. Management of waste and production of energy are closely integrated into circular systems through which waste becomes energy sources for transport (e.g. biogas) and heating (e.g. district heating).

In addition to the broad adoption of concepts for energy and resource efficiency, it could be considered somewhat remarkable that so few other green growth concepts have been integrated in the budget documents (Table 4). The general lack of research-related concepts such as smart specialisation, clean tech. and green tech. clusters is notable, especially given that almost all the cities have higher education institutions and research centres. For example, Uppsala is the home of two prestigious universities (Uppsala University and the Swedish University of Agricultural Sciences) and Lund is the home of a similarly prestigious university (Lund University). This indicates that university cities may refrain from developing policies for green growth or do this along different trajectories.

The empirical analysis has also revealed that public procurement was promoted to support sustainable development. Given that municipalities constitute important markets for several industries, procurement policy is an important and potentially powerful tool. Procurement policy may be considered an intervention that aligns with ideas of resource management or environment management – i.e. that environmental harm may be reduced through the management of market relations, regulations and customer requirements. Although the market shares of local authorities and the public sector in general vary between national economies, for many countries this is a substantial market. Procurement policies involve requiring suppliers to align their products and services with sustainable standards. In this study, several of the municipalities have used procurement policies to influence the way suppliers act. For example, Borås (2016) states that 'the department of procurement has a key position for sustainable procurement and this will be further reinforced by hiring a sustainability strategist' (p. 11).

## Conclusions – mismatch between ideals of green growth and local institutional environments

The aim of this article has been to explore the way local authorities use policies to adopt to the concepts of green growth as promoted through international communities. This analysis was performed in two steps. First, a literature review, carried out to operationalise the umbrella concept of green growth, revealed a list of concepts related to green growth that aligned with the decoupling agenda. Second, an empirical study comparing ten second-ranked cities in Sweden was carried out. The overall results from the empirical study suggest that green growth is unevenly and sparsely integrated into the policies of the ten municipalities. Furthermore, the analysis shows that the municipalities focus on energy efficiency to achieve mitigation goals. One plausible explanation for such a pattern is that addressing energy issues is a task integrated into the regulated responsibilities of Swedish municipalities for local waste and water management and other infrastructure matters.

Seven of the ten investigated municipalities own the local utility plants. A deeper analysis of the steering documents and development initiatives for these particular plants would most probably show more explicit plans for sustainable development and green growth. These plans would involve technology development projects to achieve circular systems and symbiosis 'from waste to energy' and renewable energy sources. The publicly-owned power and utility plant in Linköping is one example of an enterprise with ambitious goals for sustainable development through resource efficiency and technology development projects. The owner (i.e. the municipality) directive ratified in 2015 for the plant involves responsibilities to collaborate with regional, national and international actors to establish environmental policies and clean energy production. In addition, the municipality requires the utility company to take action to support the regional growth of environmental and green companies.

However, most of the municipalities' budget documents lack comprehensive initiatives and policies that align with green growth. This may be the result of different underlying factors. Derived from the decoupling argument, one factor behind shallow integration of green growth into municipal policy is that green growth could be considered a political and contested concept. The concept of green growth, with its strong base in growth ideals, may exemplify the observation that 'competitive localism has emerged as a dominant feature of sub-national government across large parts of Europe' and may entail a focus on promoting (in contrast to controlling and regulating) private companies and their dynamic development (Allmendinger, Haughton, Kneiling, & Othengrafen, 2015, s. 7). Although this is a widespread ideological shift, its local adoption takes on different forms.

Other questions concern the capabilities of local authorities, the 'operational limits', and the 'self-understanding' of their tasks. In the Swedish context, green growth may be difficult for municipalities, not least due to the need to balance their twin role as both a government authority and as a social actor promoting economic growth. The results of this study show that most of the municipalities do not include governance interventions for green growth in their respective policy programmes. Our results also indicate that integration of green growth concepts by municipalities seems to boost and be boosted by these municipalities' self-identification as lead partners for governance, local and regional development, and strategic planning interventions.

Nevertheless, while many of the concepts identified in the literature review are absent in the policy documents analysed in this study, the use of procurement policies as a tool for green growth could potentially indicate that the local adoption of green growth is more extensive than that revealed by the budget documents. Therefore, there is a need for more detailed studies with access to qualitative and mixed empirical data. Although the design of this empirical study is a limitation for explicating causal relations and roles of local contexts and policies in adopting the ideal of green growth, the results and conclusions will serve future in-depth studies of local policy. Such studies could reveal more qualitatively how the translation of policy between levels happens and how policies for sustainable development are adopted through particular local trajectories and institutional environments.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Note

1. This is the list of the ten budget documents of the municipalities: Borås stad (2016) Budget 2017; Helsingborgs stad (2016) Plan för mål och ekonomi 2017; Jönköpings kommun (2016) Verksamhets- och investeringsplan 2017–2019. Budget 2017; Linköpings kommun (2015) Nämndernas budget för 2016–2017 med plan för 2018–2019; Lunds kommun (2016) Ekonomi- och verksamhetsplan 2017–2019 med budget för 2017; Norrköpings kommun (2016) Budget 2017 och plan 2018–2020; Umeå kommun (2016) Planeringsförutsättningar, budget och investeringar; Uppsala kommun (2016) Mål och budget 2017–2019; Västerås kommun (2016) Årsplan 2017. Utblick 2018 – 2020; Örebro kommun (2016) En växande kommun med nya möjligheter. Kommunledningen i Örebros övergripande strategier och budget 2017 med plan för 2018–2019.

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