Climate change, the green economy and reimagining the city:

the case of structurally disadvantaged European maritime port cities

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Abstract

The concept of the New Environmental Politics of Urban Development (NEPUD) examines the impact of international and national environmental regulation on the politics of urban development. The NEPUD concept emerged from case studies of environmental governance in entrepreneurial cities. However, little is known about the concept's relevance for less competitive cities, especially urban centres facing profound problems associated with economic decline, social deprivation and negative external images or 'structurally disadvantaged cities.' This paper examines how the NEPUD has played out within two structurally disadvantaged maritime port cities in Northern Europe, Hull (UK) and Bremerhaven (Germany). Both cities face serious social and economic challenges associated with long-term industrial decline, such as high unemployment rates, low skill levels, economic peripherality, and poor external images. Nevertheless, new opportunities opened up by climate change and the green economy have prompted political actors in Hull and Bremerhaven to build new alliances between local government, business and civil society and enhance governance capacities on climate change and green urban development. Highlighting similarities and differences between these two places, the paper reveals how climate change regulations provide opportunities for certain structurally disadvantaged cities to attract 'green jobs' and transform their external image.

Key words: climate change, green economy, urban politics, place image, structurally disadvantaged cities

1. Introduction

Across Europe and North America, the negotiation of international agreements on climate change and reductions in carbon emissions is transforming the politics of urban development, creating both challenges as well as opportunities for city governments, business and civic organisations, and a range of other urban political actors. Such actors are striving – albeit with mixed success – to reconcile mainstream economic development activities (e.g. attracting inward investment, supporting urban redevelopment, and improving infrastructure) with strategies to mitigate for climate change and reduce carbon emissions. Typical of these urban climate change strategies are: making infrastructure more resilient to sea level rise and flooding; reducing reliance on carbon intensive energy; developing jobs in 'green' sectors of the economy; and investing in low carbon transportation alternatives. As cities come to terms with the challenges of climate change, moreover, they are finding new ways of marketing and rebranding themselves as, variously, 'green,' 'sustainable,' 'carbon neutral,' 'smart,' and/or 'resilient.' In short, climate change is transforming the politics of urban development in potentially far-reaching ways, suggesting the need to apply new theoretical ideas and concepts to the realm of urban development politics.

Emerging from the geographical literature on urban sustainability and environmental governance (see, for instance, *Gibbs* and *Jonas*, 2000; *Krueger* and *Gibbs*, 2007; *Bulkeley* and *Kern* 2006; *Kern* and *Bulkeley* 2009), the New Environmental Politics of Urban Development (NEPUD) is one such concept (*Jonas* et al. 2011). The NEPUD concept does not attempt to identify ideal types of urban climate governance. Instead, it seeks to understand the manner in which broader environmental regulatory processes (e.g. international agreements on climate change and carbon emissions) encourage or steer political actors in different urban places towards environmentally benign or 'green' forms of urban development alongside, or in addition to, more conventional economic development strategies (e.g. competing for inward investment). Material and discursive strategies emerging around 'green' urban development are not only empowering new strategic alliances within urban governance but also encouraging new ways of marketing cities as greener, more environmentally sustainable places (*Jonas and While*, 2007). Nevertheless, cities facing profound economic and social challenges continue to struggle to find a political balance between implementing climate change policies and reducing carbon emissions, on the one hand, and promoting economic development and sustaining social provision, on the other. We know surprisingly little about how such a political balance is achieved – if at all – in

different cities operating within different national and international environmental regulatory contexts.

The NEPUD concept was developed from empirical studies of entrepreneurial cities in Europe (e.g. Barcelona) and the USA (e.g. Seattle) (*Jonas* et al. 2011; *Jonas* and *While*, 2007). Although it was assumed to have much wider applicability, the NEPUD concept has yet to be applied to cities faced with profound economic, social and environmental challenges or 'structurally disadvantaged cities.' We use this terminology differently to that of 'structurally disadvantaged communities,' a term which has appeared in studies of crime and poverty in inner cities in the United States (US) (*Wilson*,1987; *Kane*, 2005). The latter term seeks to capture the effects of social structures (e.g. race and class) on the economic and social marginalisation of minority populations in inner-city communities. In contrast, the former term, 'structurally disadvantaged cities,' can be applied to small-to-medium sized cities in Europe grappling with problems of structural economic decline, mounting social problems, and negative external images.

Two examples of such structurally disadvantaged cities are the once-thriving maritime port cities of Hull (UK) and Bremerhaven (Germany), both of which suffer from:

- long term decline of maritime-related industries (e.g. fishing and shipbuilding);
- disused industrial assets and infrastructures (e.g. port facilities);
- geographical remoteness or economic 'peripherality';
- high unemployment, low/underutilised skills base and declining populations;
- poor external image and marketing;
- weak economic governance structures, shrinking tax bases, and susceptibility to austerity measures and/or state-imposed efforts to achieve balanced budgets.

The paper assesses how Bremerhaven and Hull have tried to turn at least some of the above-listed structural disadvantages into opportunities by adopting urban governance measures and/or facilitating business and societal activities on climate change, renewable energy, and investment in green port facilities.[1]

The research addressed the following three main questions: How are international and national climate change policies driving the urban development strategies and policies of structurally disadvantaged cities? What political and other trade-offs are involved in the move towards a green economy in such places? Do similar structurally disadvantaged cities respond to climate change in the same or different ways as evidenced by their efforts to develop the green economy and engage in place promotion strategies? In attempting to

answer these questions this paper will provide empirical evidence for how the NEPUD concept could be applied to a category of cities that has tended to be overlooked in the literature on urban climate change governance, namely, structurally disadvantaged maritime port cities.

To anticipate some of our findings, both Bremerhaven and Hull exemplify the potential opportunities for certain structurally disadvantaged cities to undertake new governance and place-promotion initiatives around climate change and the green economy. Such initiatives portend a possible reversal in the otherwise dire economic prospects confronting these particular cities (as well as others facing broadly similar challenging circumstances). Building on a well-established renewable energy cluster, Bremerhaven's local authorities have retrofitted the city's port facilities for offshore wind turbine assembly and begun to market the city as *'Klimastadt'* (Climate City). More than a place branding strategy, *Klimastadt* has also led to institutional reorganisations within urban government. In a similar fashion, urban political actors in Hull have overseen significant economic transformations around investments in the green economy. However, climate change is not so central to how the City of Hull and the wider Humber region (in which Hull is situated) are being marketed and rebranded. Instead, taking advantage of the prospect of new investments in green port facilities, the Humber is being reimagined as the UK's 'renewable energy capital' alongside, yet separately from, Hull's 'city of culture' strategy.

The remainder of the paper proceeds as follows. After a brief discussion of the literature on climate change and urban development politics, the main substantive sections of the paper compare and contrast recent transformations in the institutions, alliances and images of Bremerhaven and Hull, respectively. Despite substantive progress on developing the green economy and addressing climate change, both cities continue to face significant social and cultural challenges, which have resulted in strategic compromises in how these structurally disadvantaged cities are being reorganised and reimagined, economically, socially and also culturally. In the conclusion, we suggest that future research on the NEPUD could benefit from the analysis of a broader sample of structurally disadvantaged cities, which makes use of a comparative perspective on urban environmental governance.

2. Climate change, the green economy and the politics of urban development

Since the 1970s, the scope of international and national environmental regulation has reached into many spheres of urban politics and policy in North America and Europe (*Jonas*

et al. 2004; *While* et al. 2010). Focusing here on Europe, many climate change-induced regulations occur at the European Union (EU) and international level. These include the 1997 Kyoto Protocol and 2015 Paris Agreement as well as the EU's 1989 burden sharing agreement and 2008 effort sharing decision, which allocated to EU member states differentiated greenhouse gas emissions (GHGE) reduction targets derived from the EU's agreed reduction targets. Under the 1998 EU burden sharing agreement the UK and Germany accepted reduction targets of 12.5 and 21 percent respectively by 2012. In 2008 the EU's '20-20-20 by 2020' energy and climate package put forward a unilateral 20 per cent (and a conditional 30 per cent) reduction target by 2020. Additionally, it included a 20 per cent target for renewable energy and the goal to increase energy efficiency by 20 per cent. The EU's effort sharing decision then allocated to the UK and Germany CO_2 emission reduction targets of 16 per cent and 14 per cent respectively by 2020 (compared to 2005) (*Wurzel*, *Connelly* and *Liefferink* 2017). In 2014 the EU agreed to a 40 per cent reduction of GHGE and an increase of renewable energy to 27 per cent by 2030. By 2050 the EU aims to reduce GHGE between 80 to 90 per cent (compared to 1990) (*EU Commission* 2015). Such targets require action at various levels of climate governance including the international, EU, national and, as we emphasise here, the urban scale. The UK and Germany have both also adopted national GHGE reduction targets which are more ambitions than the EU's 2020 and 2030 targets. Importantly Germany has decided to phase out nuclear power thus making the targets for renewable energy especially urgent.[2] The outcome of UK's EU membership referendum in favour of leaving the EU (so-called Brexit) has thrown into doubt Britain's continued commitment to climate policies as agreed by the EU and its member states.[3] Nonetheless, in November 2016 the UK government under the leadership of Prime Minister Theresa May ratified the 2015 Paris Agreement as negotiated by the EU and its member states.

The landscape of urban development in the EU thus can be characterised by a high degree of inter-scalar governance with respect to climate change and carbon reduction measures (*Gibbs* and *Jonas* 2000; *Bulkeley* and *Kern* 2006; *While* et al. 2010). At the same time, many cities are faced with austerity and intensified inter-urban competition for investment. Responding to these different pressures, economic development practitioners in many cities have rallied around the 'green economy' (e.g. investments in renewable industries such as the manufacture of wind turbines) as a means for both promoting inward investment and transforming the urban economy around sectors often regarded to be more environmentally benign than, for instance, traditional fossil-fuel industries (*Gibbs* 2002;

Christopherson 2010). However, there is little consensus about what 'green' economic development entails for urban governance – nor agreement about how it should be implemented in different places. Whilst some advocates argue that any climate change-driven urban economic agenda must be built around social justice and resilience, others believe that new regulations, technologies and government incentives are sufficient to produce green economic development and jobs locally (see *Christopherson* 2010: 371). And if the creation of 'green jobs' may offer distributional benefits to some workers in some cities, it might not politically empower labour as a class nationally or internationally so much as enrol local workforces in divisive inter-urban competition (*Deutz* 2014). Furthermore, it is not clear how the green economy should be promoted locally alongside other mainstream place promotion strategies. Given these different and sometimes conflicting perspectives, it is necessary to examine more closely how the climate change agenda *in practice* comes to ground at the urban scale and assess the manner in which it is integrated (or not, as the case may be) with other arenas and priorities within urban politics.

In order to address this challenge, the concept of the NEPUD has been proposed as a way of highlighting the growing centrality of climate change, carbon control and green economic development in discourses, strategies and struggles around urban development and place promotion (*Jonas* et al. 2011). In particular, the NEPUD takes account of the political trade-offs involved in promoting green urban development versus mainstream economic development strategies. However, its relevance here is not simply in examining whether climate change is shaping how urban political actors assess the costs and benefits of inter-urban competition but also whether efforts to green urban economic development are empowering new strategic alliances in urban politics and shaping urban place promotion strategies. Despite the growing importance of climate change in urban politics, urban leaders across Europe continue to address many other political demands and pressures with respect to economic development and satisfying social needs in the urban living place. The green economy does offer an attractive answer to some of these demands and pressures for some places; but not for every place. For example, the switch to a low-carbon green economy is likely to involve negotiations and trade-offs around inward investment and job creation, on the one hand, and collective social provision (e.g. affordable housing, schools, etc.), on the other (*Jonas* et al. 2011). How these trade-offs take place in structurally disadvantaged cities – places that were once heavily reliant upon traditional resource-consuming economic sectors such as the shipbuilding, food processing and fishing industries – is not well documented.

Based on studies of entrepreneurial cities, the integration of environmental agendas within urban governance can be relatively non-conflictual especially in localities that are well endowed with fiscal resources, promote strong environmental sustainability agendas in local politics, and participate in wider environmental networks (*Jonas* et al. 2004; *While* et al. 2004). Indeed, policy innovations in response to climate change, such as green building policies, are increasingly likely to be adopted by cities rather than nation states (*Cidell* 2015). However, one might expect this to be less typical of structurally disadvantaged cities, many of which are faced with severe economic and social problems, where environmental sustainability is low on the political agenda compared to social and economic regeneration, and linkages to wider environmental policy networks are weak or altogether absent. Moreover, growing fiscal constraints in such cities – often imposed by central government − forces urban leaders to opt for short-term measures and rhetorical gestures in response to climate change. Since the 2008 financial crisis many former industrial cities in Europe face state-induced austerity measures, greater public spending controls, and outright fiscal retrenchment. Whilst some of these cities continue to struggle to attract investment, others still hope to capitalise upon new economic opportunities opening up around climate change and the green economy. For a few places the prospect of attracting 'green jobs' is seductive, especially given the lack of alternatives, but it nevertheless still requires the development of new urban alliances and governance capacities (*Christopherson* 2010; *Rice* 2010; *Monaghan* et al. 2013).

In this context, differences between cities in terms of their inherited social, economic and political structures, as well as in respect of local-national relations within the state (as well as local-EU relations), creates opportunities for some places to attract 'green jobs' but not others. Indeed, such differences could lead to significant national variations in climate change governance arrangements at the urban scale (*Jonas* et al. 2011). For example, German federalism as enshrined in the constitution guarantees local self-governance *(kommunale Selbstverwaltung),* and leads to different local governance structures in different German states *(Länder)*. Whilst in the UK there has been some devolution of powers to cities (e.g. City Deals and the 2001 Localism Act), this is occurring in context of state-imposed austerity. Likewise, German local governments' room for manoeuvre has been curtailed by reforms to local government taxes, budgetary pressures and federal government imposed debt limits. Europeanisation in the form of the liberalisation of public utilities has also been blamed for reducing local governments' climate change policy capabilities (*Wollmann*

2012).[4] Consequently, pronounced Anglo-German local governance differences which once existed have narrowed in recent years (*Bulkeley* and *Kern* 2006).

In both the UK and Germany, therefore, urban managers and politicians have to find new ways of working locally with the private sector and civil society to develop strategies on climate change and the green economy. In the next three sections, we examine, firstly, the social and economic challenges faced by Hull and Bremerhaven respectively, secondly, how each city has developed new alliances and strategies to develop the green economy and, thirdly, accompanying attempts to transform the external image of each city in turn.

3. Attracting 'green collar' jobs: the challenges facing two structurally disadvantaged cities

Hull - a city of c. 259,000 inhabitants in 2015, located on the Humber Estuary in North East England - is part of the Humber economic region (population c. 921,000) (*Kingston upon Hull Data Observatory* 2017). This region includes the City of Hull, East Riding of Yorkshire, North Lincolnshire and North East Lincolnshire. Hull's population has declined since it peaked at around 302,000 in 1931, falling to below 244,000 in 2001; it has been moderately reversed since 2013 in part due to net in-migration from countries in the EU (*Kingston upon Hull Data Observatory* 2017; Interview, public official Hull, 2014). Hull has many of the economic and social attributes of a structurally disadvantaged city. It has undergone severe long term industrial decline in the fishing and other maritime-associated industries. In 2014, the city's *overall* unemployment rate was 13.5 per cent in 2014 as compared to 10.2 per cent in the region and 7 per cent UK-wide; but as a proportion of the *economically active* population, it was 7.3 per cent in Hull compared to 5.2 per cent in the region and 4.8 per cent nationally in 2016 (*NOMIS* 2017). In a recent study ranking 64 UK cities according to various economic and social criteria, Hull was ranked near the bottom in terms of earnings, job seekers allowance, and employment (*Centre for Cities* 2014). Moreover, Hull's citizenry suffers from chronic inter-generational unemployment, lack of skills development, and social exclusion. For example, the percentage of all households in Hull classified as 'workless' was 23.2 in 2016 compared to 15.3 nationally (*NOMIS* 2017).[5]

Innovation and entrepreneurialism – capacities deemed indicative of successful cities – are in short supply in Hull, with many businesses not surviving past three years, and low overall business start-up rates (Interview, economic development practitioner, Hull, 2014). Although there is plenty of cheap land suitable for economic development in the wider

Humber region as well as on brownfield sites in Hull itself, investment returns tend to be low. Moreover, despite offering a range of incentives to prospective commercial and industrial firms, Hull has in more recent times struggled to attract inward investment (*Gibbs* et al. 2001). Importantly, the threat of flooding is a constant concern for potential investors as devastating floods occurred in 2007 and 2013. Crucially, the severe 2007 flood prompted local officials and politicians to position more prominently climate change issues on the local governance agenda (Interviews, Hull, 2014).

Bremerhaven has also suffered from declining maritime-related industries (e.g. shipbuilding and fishing), persistent high unemployment, low skills base, poor educational attainment, population decline, geographic remoteness and flooding (Interviews, Bremerhaven, 2013-17). The City of Bremerhaven and the City of Bremen, which are 60 kilometres apart while being connected by the river Weser, are surrounded by the state *(Land)* Lower-Saxony *(Niedersachsen),* together form the *Land* Bremen which is the smallest of Germany's 16 *Länder.* Bremen is one of Germany's poorest states and receives funds through the (horizontal) fiscal equalisation mechanism between the states *(Länderfinanzausgleich)* and (vertically) from the federal government although the richer German states (e.g. Bavaria) have started to question the continuation of the existing rules.

In 1827 Bremen established a harbour for Bremen ('Bremerhaven') on the shores of the North Sea (the river Weser had silted up). To this day the harbour of Bremerhaven is still owned and operated by the City of Bremen leading to occasional tensions between the two cities (Interviews, Bremerhaven, 2013-17). The closely intertwined political and administrative governance structures of the Cities of Bremerhaven and Bremen are complex and cannot be assessed in this paper (for more details see e.g. *Scherer* 2010). Suffice it to note that Bremerhaven has a City Parliament *(Stadtverordnetenversammlungen)* and MPs who participate in the joint State Parliament. In Bremerhaven the *Magistrat* acts as executive with responsibility for the implementation of local climate policy measures adopted by the *Stadtverordnetenversammlung*.

In 2015 Bremerhaven had about 110,000 inhabitants and Bremen approximately 671,000. The unemployment rate in Bremerhaven was 14.7 per cent in 2015 (more than twice the German average unemployment rate) (*Statistisches Landesamt* 2016). While Bremerhaven suffers from a poor external image this is not the case for Bremen (Interviews, Bremerhaven and Bremen, 2013-17). Bremerhaven's population shrank by 10 per cent until 2005. However, since about 2012 Bremerhaven has reversed moderately the trend of a shrinking population (*Mederake* 2015: 19).

In recent years Bremerhaven has attracted significant employers in the research sector (e.g. Alfred-Wegener-Institute, Bremerhaven University and Fraunhofer Institute for Wind Energy), wind energy industry (e.g. Areva, PowerPlades, RePower and WeserWind[6]) and logistics companies. In 2009 the climate house Bremerhaven 8° East *(Klimahaus Bremerhaven 8° Ost)* opened; it features climate change-related exhibitions and attracts about one million visitors annually.

4. Harnessing the green economy: institutions and strategies in Bremerhaven and Hull

Table 1 summarises some similarities and differences between Hull and Bremerhaven in respect of key economic, social and environmental indicators, such as population, unemployment, and 'green jobs.' In terms of growth around the green economy, Bremerhaven is arguably ahead of Hull yet both cities have also retained jobs in some traditional sectors. In the 1970s, Bremerhaven hosted one of Europe's largest fishing industry with some 300 trawlers and fishing boats. Although employment in the fishing industry has since all but collapsed, Bremerhaven still has a large food industry specialising in frozen fish. Significant attempts have been made to reduce GHGE from these factories (Interviews, officials Bremerhaven, 2014). Several sites in Bremerhaven are devoted to the assembly and construction of wind turbines and tripods, and the city is planning the development of an offshore terminal *(Offshore Terminal Bremerhaven – OTB)*. However, in late 2015 the planning decision in favour of building the OTB was challenged in court by an environmental NGO on the grounds that the terminal is apparently economically no longer viable following the insolvency of the tripod manufacturer WeserWind in early 2015. This has caused considerable uncertainty for the wind energy industry (Interviews, Bremerhaven, 2015-17).

The Bremerhaven Economic Development Company *(Bremerhavener Gesellschaft für Investitionsförderung und Stadtentwicklung mbH - BIS)* promotes economic development in Bremerhaven. An environment division was set up within the BIS in 2003 following a local boom in the wind energy industry in the early 2000s. The BIS's efforts to attract green technology investment in Bremerhaven initially focused primarily on the offshore wind energy industry although it has broadened its focus to the wider green economy following the collapse of WeserWind (Interviews, Bremerhaven, 2015-17).

	Bremerhaven	Hull

Population (2015)	110,000 (*Land* Bremen: 671,000)	259,000 (Humber region 921,000)
Major employers	Wind energy industry, port, logistics, food industry, research (AWI), Bremerhaven University	Chemical industry, port, medical supplies, food industry, University of Hull
Unemployment rate (2014)	14.7% (6.7% Germany national average)	13.5% (7% UK national average)
Declining and former industrial sectors	Fishing industry, shipbuilding, departure of US army	Fishing industry, docks, food industry, shipbuilding
Major flooding events	1962, 1999, 2006	1953, 2007, 2013, 2016
Offshore wind turbine and tripod manufacturers	Areva, PowerBlades, RePower and WeserWind	Hull: Siemens, CS Wind (Green Port Hull); Paull: Siemens North Killingholme: Able UK Grimsby: Dong, Vestas
Offshore wind energy related research institutions	Fraunhofer Institute for Wind Energy; Bremerhaven University; Alfred-Wegener-Institute (AWI)	University of Hull, Hull College Energy and Climate Centre
Direct jobs in offshore wind energy industry (2016)	c.3,000-4,000 Bremerhaven in 2014, c. 10,000 in Germany in 2014	Siemens Hull: c. 800 in 2016, c. 6,830 in UK in 2013

Table 1: A comparison of selected economic, social and environmental indicators for Bremerhaven and Hull (Sources: interviews 2014-17; *Statistisches Landesamt* 2016; *Humber LEP* 2015; *Kingston upon Hull Data Observatory* 2017).

As mentioned above, structurally disadvantaged European cities are not immune from regulation-induced economic developments on the national and EU level. In Bremerhaven the gold rush fever for the offshore wind energy industry cooled when a newly elected federal government (made up of the Christian Democratic Union/Christian Social Union (CDU/CSU) and Social Democratic Party (SPD)) revised the federal renewable energy law *(Erneuerbare Energie-Gesetz – EEG)* in 2014, resulting in changes to the feed-in tariff thus causing uncertainty, delayed investment and even job losses in Bremerhaven. The Northern German

coastal states, which benefit most from off- and onshore wind energy production teamed up to lobby the federal government for continued government support for offshore wind energy; these lobbying activities were largely successful leading again to a more stable investment climate for offshore wind energy development.

Bremerhaven has taken measures to adapt to future sea-level rise and shore up sea-level defences especially around infrastructural assets. However, it has also taken significant climate change mitigation measures including the adoption of plans to lower CO_2 emissions by 40 per cent in 2020 (compared to 1990). Bremerhaven participates in the European Energy Award (EEA), which is an energy management and certification system for cities with more than 100,000 inhabitants, and the municipal Master Plan for Active Climate Policy (*Masterplan aktive Klimapolitik* - MAK) which involves collaboration with the wider region. However, severe budget cuts in 2016 have thrown into doubt Bremerhaven's future participation in the EEA (Interview, Bremerhaven, 2016). Bremerhaven has adopted a wide range of other climate actions including cycling paths, electrical mobility, hosting a rally for electric cars powered by renewable energy, climate-friendly tourism and passive house nurseries.

Besides flood prevention, Hull is also developing governance capacities around the green economy while the wider Humber region is repositioning itself to be the UK's 'renewable energy capital.' One of the main triggers of this transformation has been the prospect of developing the renewable energy sector around the estuary. Most notably this has involved a new Green Port facility in Hull for the manufacture of offshore wind turbines. In 2011, in association with the prospect of significant investment by Siemens, the £210m Green Port Hull project was proposed as a major new facility to be managed by Associated British Ports. In March 2014, Siemens announced its decision to invest £160 million in wind turbine production and installation and a new blade manufacturing facility closer to the mouth of the Humber Estuary.[7] Despite concerns about the long-term impact of Brexit on inward investment, in 2015 Siemens commenced its hiring of local trainees to work on the production of wind turbines at its Hull facility.

Motivated by the achievement of attracting Siemens to Hull, local economic development practitioners have seen an opportunity to address the City's longstanding structural disadvantages. In 2012, Hull adopted a 10-year City Plan to attract £1bn in investment and generate 'green collar jobs' through a 'major economic refit' including exploiting opportunities in the renewable energy sector. As a central component of this, Energy City Hull was initiated by the City Council to connect organisations "to work together

to take advantage of a changing social and political landscape to accelerate change in the city. The main aim of the plan is to create up to 8,000 new jobs for local job-seekers over the next 10 years, which would inject over £200m into the local economy" (*Hull City Council* 2012a). At the same time, the City Council established a Green City Group to develop a "green vision for the city" (*Hull City Council* 2012b). Whilst the Group met on a regular basis between 2011 and 2012, since then it has not been publicly active. In 2013 the Mini-Stern Report for the Humber identified need for £1.8bn investment in the low carbon economy, while arguing for developing new governance capacities for promoting green investments (*Gouldson* et al. 2013).

A key strategic actor in Hull's proposed economic transformation is the Humber Local Enterprise Partnership (LEP) which was set up in 2013. The Humber LEP explicitly seeks to link climate change with regional economic development. Following the election of the Conservative-Liberal coalition government in the UK in 2010, LEPs, which are private-sector led but with public sector representation, replaced Regional Development Agencies. In its *Strategic Economic Plan*, the Humber LEP emphasises the region's large estuary and associated capacities based on logistics and the ports (*Humber LEP* 2015). The LEP quickly recognised that addressing climate change is essential to the competitiveness of the city and region. There are two considerations here: (1) building inward investor confidence; and (2) reducing flooding risk. The LEP has also participated in developing the *Humber Spatial Plan,* which grew out of partnership working with several statutory bodies across the region as well as environmental organisations and not-for-profits, including nature and conservation partnerships (Interview, economic development practitioner, Hull 2014). As one local economic development practitioner has argued, the plan is to put "the Humber [at] the centre of renewable energy [in the UK] – so that when people think of energy they will think of the Humber" (Interview, Hull, 2014). Nevertheless, many businesses and industries in Hull rely upon conventional sources of energy, suggesting that efforts to rebrand the City as the UK 'renewable energy capital' were likely to encounter some obstacles, which we now describe.

5. Climate change, the green economy and reimagining the city

So far we have considered how two structurally disadvantaged cities, Hull and Bremerhaven, have started to capitalise on investment and economic development opportunities around climate change and the green economy. In both cases, distinctive strategies have emerged around developing new sectors and attracting inward investment

around renewable energy (especially offshore wind energy). However, it would seem that the corresponding governance capacities and institutions are more developed in Bremerhaven compared to Hull. In both cities, moreover, these organisational changes within urban governance are being driven primarily by regional and national scale governance processes. We now consider how these cities are being reimagined, and associated changes in branding strategies and external images. Here we see crucial links between climate change, the green economy and place imagination; linkages also recognised in the concept of the NEPUD.

The expanding literature around how cities market themselves has flagged up the growing importance of 'greening' strategies for place branding and reimagining (*Anderssen* 2016; *Cidell* 2015). Much of this literature has focused on describing various 'green' or 'carbon neutral' place promotion strategies initiated by entrepreneurial cities, highlighting how such strategies have been adapted and modified as such cities undergo economic and social restructuring, even to the point that transforming disused industrial landscapes into green spaces has become emblematic of economic prosperity in the post-Fordist industrial age (*Keil* and *Graham* 1998; *Anderberg* and *Clark* 2013). To take one example from this literature, *Short* (1999) talks of how cities undergo different regimes of representation, each involving distinct urban brands, slogans, identities, and representations. Playing on the idea that cities no longer engage in chasing smokestack industries, Short refers to one such regime as 'Look No More Factories!' In this representation, the competitive city is one that attracts environmentally clean high tech industries and producer services. Moreover, it is a place which actively seeks to suppress images of its polluted industrial past through the reimagining of vestigial industrial landscapes as green spaces, creating attractive waterfronts (devoid of polluting heavy industry), and marketing the city as environmentally friendly.

If the process of reimagining the city through, for example, the greening of public space has reaped economic rewards especially for certain entrepreneurial cities (*Jonas* and *While* 2007), the corresponding efforts in structurally disadvantaged cities requires confronting more than just the challenges of transforming the built environment. Far more challenging is the relationship between capital flight and loss of jobs and associated identities among the local population. *Cox* and *Mair* (1988) argue that often it is urban political actors who are most dependent upon growth that strive to fill the void in local meaning and signification created by the loss of local jobs and livelihoods caused by disinvestment, which is a profound challenge in structurally disadvantaged cities. Typically, new urban imaginaries emerge not so much from the local population as from new alliances and coalitions forged between local business interests and urban government as these actors, in turn, strive to attract new

investments into the locality. However, fostering new urban imaginaries can be a source of tension with local communities as different visions and ideas of place and community are up for grabs. For instance, *Hesse* (2015) distinguishes between local economic development strategies that promote progressive ideologies and visions of urban and regional growth based around, for instance, high technology industry and logistics, and other strategies that draw on alternative meanings and ideologies, such as sustainability and community empowerment. In the former category, one can refer to the place promotion efforts of cities and states involved in selling and promoting regional hubs or national logistic centres. In the latter, we can refer to the recent experiences of places like Hull and Bremerhaven.

Of the two cities discussed here, Bremerhaven has arguably gone further than Hull to exploit the opportunities created by climate change and the green economy for reimaging the city. Indeed, Bremerhaven is rebranding itself as *Klimastadt* while also adopting significant climate change policy measures. However, it is important to note that this rebranding is occurring in a regional context where discussions and debates are ongoing at the state (Bremen) level about where to prioritise infrastructure and urban development investment especially around ports and logistics. Following a conceptual feasibility study conducted in 2008-9 (*AWI* 2009) and long drawn out discussions about financial support, the *Klimastadt* Bremerhaven – officially called Course Climate City Bremerhaven *(Kurs Klimastadt Bremerhaven)* thus illustrating that it is an ongoing goal rather than a final destination – was eventually established in 2011 with 50 per cent of its funding each coming from the BIS and the Senate Bremen. Its main aim has been to assist in changing Bremerhaven's image from 'fish town' to 'climate city' while involving not only businesses and scientific research institutes but also civil society (Interviews, Bremerhaven 2014-17; *Mederake* 2015). The climate city fosters involvement by theatres, schools and young people by, for example, organising a Youth Climate Council *(Jugendklimarat)* with its own budget and access to Environment Committee meetings of the City Parliament. A *Klimastadt* office which combines the functions of climate governance administration and general public advice on climate-related issues opened in the city centre in November 2014.

Crucially the initial conceptual study *Klimastadt* Bremerhaven (*AWI* 2009) which had been commissioned under a grand coalition[8] (CDU/CSU-SPD) government in the City Parliament did not yet emphasise the involvement of civil society. Instead it focused almost exclusively on businesses and research institutes (Interview, Bremerhaven 2015). It was only when a SPD-Green Party coalition government gained a majority in Bremerhaven's City Parliament in 2011 that the Green Party Environmental Councillor insisted on the inclusion

of civil society actors in the *Klimastadt* project thus necessitating a revision of the original concept (Interviews, Bremerhaven, 2014-17). However, the active inclusion of civil society actors in the *Klimastadt* project seems to have made the project less attractive for businesses whose levels of commitment have remained moderate (Interviews, business representative, 2015-16). Although the possible closure of the Climate City Office in the city centre, which was had been discussed in 2016 within the context of the need to make severe budget cuts, has been averted, the Climate City Office lost one senior part-time member of staff and had to move to a less central location in 2017 (Interviews, Bremerhaven, 2017).

Bremerhaven hosted 'Climate City Day' on June 15, 2013, with the slogan 'we come to the people.' Activities included rent-a-bike, 'fish and ships' trips around the harbour, and an energy efficiency table. Schools, the local theatre and artists have also been involved in climate change-related activities. The city theatre staged a transdisciplinary festival called 'Odyssey: Climate' *(Odyssee Klima)* which featured climate change related plays and short performances by actors and scientists in Bremerhaven's pedestrianised city centre and in some wind turbine assembly factories (Interviews, Bremerhaven, 2015-17). Clearly such climate change related activities go well beyond what has conventionally been defined as the (local) green economy.

In Bremerhaven climate change has been used not only to create economic opportunities for business, employment for scientific researchers but also openings for artists to showcase their creativity and for citizens to get actively involved. It is too early to say anything about the long term sustainability of such a wide range of climate change related activities. However, the *Klimastadt* Bremerhaven project has clearly enabled "the municipality to increase its sphere of (political) influence and its scope of action" (*Mederake* 2015: 384). In other words, the *Klimastadt* Bremerhaven project has allowed local officials and politicians to widen their room for manoeuvre on climate change-related initiatives in economic difficult times while engaging with businesses and researchers as well as civil society actors.

Unlike Bremerhaven, which has actively used the 'climate city' theme as a rebranding strategy, in Hull the story is more complicated and, if anything, a source of stronger ongoing tensions and contradictions. One important reason for it is that Hull still relies heavily on carbon-intensive industries (e.g. chemicals) for local jobs. Furthermore, wind turbine production in Hull is only a fledgling industry while Hull's City Council has adopted less ambitious local GHGE targets when compared to Bremerhaven. Whilst major actors in Hull are starting to see opportunities in maritime heritage and the green economy as vehicles for

overcoming negative images of the city, only in recent years has this started to cohere around a coordinated strategy. Thus there are increasing references to opportunities for the city to reconnect with its maritime past, to make the most of its natural assets and, especially, the estuary, to invest in more resilient infrastructure, to use Siemens and Green Port Hull as catalysts to develop the renewable economy, and most recently to capitalise on the city's successful bid to be UK City of Culture 2017.

Many of our interviewees argued that there is a "once in a generation opportunity" for Hull to make real change (Interviews, Hull, 2014-15). In order to meet the climate change challenge, limited changes have been made to governance structures, notably the creation of a city leadership board including inputs from across the local authority and stakeholders. Hull City Council is supportive of the new investments in Green Port Hull but mainly in order to realise the employment potentials. If it did not seem apparent that climate change had the potential to create 'green jobs,' then there would not be so much investment of time and money in developing the green economy along such lines.

One of the net effects of all of this has been a more focussed effort to talk up Hull and the Humber as the 'renewable energy capital' of the UK, something which has emerged out of previous initiatives to impose a stronger sense of economic identity on the region in the absence of any clear alternatives based in Hull and the wider Humber region. The problem is that...

> "... there was no 'Humber' identity, [even though] there had been previous organisations. There had been a Humber Trade Zone, Humber Forum, Humber Economic Partnership and all of those had gone and there was a gap of about nine months before the LEP came along ... and the LEP was the only Humber entity apart from police and fire of any significance at that time." (Interview, economic development practitioner, Hull, 2014)

This message has come to be expressed more widely, especially by those organisations and political actors charged with providing a stronger voice for the region nationally (see e.g. *Hughes* 2015). As Karl Turner (Labour), the MP for Hull East has argued "Hull is well placed to be the renewables capital of the UK. This exciting opportunity guarantees jobs, helps the environment and will boost Hull's economy for future generations" (quoted in *Marsh* 2012). Nonetheless, although welcoming the prospect of inward investment, some local business leaders have publicly expressed a concern that "concentrating too heavily on only certain, high-profile projects, such as offshore wind, would not allow the region to properly flourish and become a true leader in green energy" (*Offshore Wind* 2012). Furthermore:

"In one sense it is very important a company like Siemens is a magnet for other companies as well because ... we are seeing investment on the back of that. [Yet] in another sense it can be a bit of a false thing to hope for because with some investors they will come in and [invest in a] factory and employ some people, but it may not be local people in the end." (Interview, economic development practitioner, Hull, 2014)

Thus for some in Hull the sustainability of the green economy remains in doubt so long as more fundamental measures to address the city's structural problems are not undertaken.

Whilst the city has embarked upon community-led regeneration initiatives, the prospect of the UK leaving the EU does not bode well for both the long-term future of EU funding in Hull and the feasibility of wind energy industry exports to the EU post-Brexit, although this will depend on the future trading relationship which the UK will strike with the EU and its member states. In this context, ongoing efforts to promote the Hull as a 'city of culture' resonate quite well with the interests, aspirations and concerns of local communities and political leaders in Hull, arguably more so than the corresponding efforts to represent the city as a leader on climate change and renewable energy. Nonetheless, there have been symbolic attempts to bring these potentially competing strategies closer together, such as the decision in early 2017 to place a temporary artwork in the city centre of Hull in the form of a giant wind turbine blade – the blade had been manufactured at Siemens' Green Port Hull factory.

6. Discussion and conclusions

Drawing upon case studies of Hull and Bremerhaven, this paper has used theoretical insights from the literature on urban sustainability and environmental governance in order to examine how climate change has worked its way into the political, social and economic fabric of two structurally disadvantaged cities. Such cities can be characterised as places that have experienced long-term decline in traditional industrial sectors, state-imposed austerity measures, and negative external images. Although as a consequence facing deeply-entrenched social, economic and cultural challenges, both cities have in more recent years embarked on ambitious strategies around green economic development and place marketing which (at least in Bremerhaven's case) go well beyond received knowledge based on the concept of the NEPUD. We now conclude by reflecting upon how this comparative study offers some more general insights into the workings of environmental and sustainability governance in structurally disadvantaged cities.

The first general finding is that international and national policies on climate change seem to provide selective opportunities for local political actors in structurally disadvantaged cities to build new alliances across local government, business and civil society in order to attract 'green jobs.' However, such opportunities are place-specific and depend on the presence of contingent factors such as, in the cases examined here, access to port and manufacturing facilities suitable for developing off-shore wind farm production. The experiences of Hull and, although arguably to a lesser degree, Bremerhaven appear to confirm the argument that in times of austerity urban leaders tend to shun broader social and environmental objectives in favour of cost-effective short-term measures and interventions that focus on jobs and investment rather than long-term social, political and environmental transformations (*Jonas* et al. 2011).

Nevertheless, secondly our research seems to confirm claims in the NEPUD literature that climate change and carbon emissions policies are transforming urban political discourses and ushering in new ways of legitimating the costs and benefits of major economic development projects such as green port facilities. Structurally disadvantaged cities like Hull and Bremerhaven might not be entrepreneurial in a narrowly economic sense but nonetheless do exhibit innovative policies and strategies not just in terms of how to deal with the challenges of climate change for local economic development but also in terms of the involvement of civil society actors around the green economy, broadly defined. In fact, the examples examined in this paper demonstrate the resilience of certain cities faced with profound structural disadvantages. Hitherto, climate resilience has been associated with physical planning interventions that protect key urban assets from sea-level rise, such as strategic infrastructure and commercial property, rather than address wider social and economic challenges (see e.g. *MacKinnon* and *Derickson* 2012). Yet the structurally disadvantaged cities examined here appear to be developing governance capacities which extend into spheres of economy and civic life well beyond what is conventionally regarded as 'climate resilient.'

Thirdly, policies on climate change and green economic development also provide opportunities for certain structurally disadvantaged cities to nurture a more positive external image (or, at the very least, to overcome some negative social stereotypes with which they may be associated). Both our examples demonstrate how securing investment in the green economy requires forward thinking and planning with respect to urban place promotion: it forces urban political actors imagine alternative urban futures, which build on existing economic assets and cultural resources whilst also developing new institutions and place

identities. To some degree this is an extension and modification of what scholars like *Short* (1999) predict in that vestigial and decayed industrial landscapes not only can be reimagined in new ways for consumption but also can be socially transformed around arguably more environmentally beneficial forms of production.

Finally, this paper contributes to wider discussions about the changing forms of urban sustainability and environmental governance. Previous studies of the NEPUD might have underestimated the depth and scope of social and environmental constraints and challenges faced by different kinds of cities resulting from their historic role in wider spatial divisions of production and consumption. Our focus has been on two structurally disadvantaged cities where, despite significant economic, social and political challenges, quite substantive progress has been made on developing the local green economy, addressing climate change, and transforming the external image of both places. The wider literature on urban sustainability and environmental governance likewise could benefit from the analysis of a larger sample of structurally disadvantaged cities. Here we endorse recent calls for further comparative research on groups of cities which tend to get overlooked in mainstream urban theory and research (*Robinson* 2011); places, in other words, that are often deemed peripheral both geographically and also in terms of how they help to inform wider theoretical ideas and concepts. More specifically, we suggest that the concept of 'structurally disadvantaged cities' helps to expand our understanding of how climate change and the green economy work through certain kinds of cities having broadly similar economic, social and cultural characteristics.

Notes

1. The research draws upon more than 40 interviews conducted with officials, researchers and stakeholders in Hull, Bremerhaven, Bremen, and Berlin between 2013 and February 2017. In addition, workshops were held with practitioners in Bremerhaven and Hull in 2013 and 2014.

2. This paper is not the place to assess the inter-linkages between the various scales of climate change governance in Europe. Rather it examines the challenges and opportunities that climate change and the green economy provide to structurally disadvantaged cities which, however, *are* influenced by climate change policies agreed at 'higher' levels of governance.

3. Like most environmental treaties, the 1997 Kyoto Protocol and 2015 Paris Agreement are signed and ratified as so-called mixed agreements by both the EU and its member states including the UK. At the time of writing, the USA had indicated its intention to withdraw from the 2015 Paris Agreement. In 2001, the USA abandoned the Kyoto Protocol without causing any major impact on the remaining signatories which ratified and implemented the protocol.

4. German local governments once owned public utilities through *Stadtwerke* that provided energy and water to local customers. However, many *Stadtwerke* have been privatised due to the German federal government's support the liberalisation of utilities within a Single European Market, austerity measures and the constitutional goal of balanced budgets.

5. In the 2016 referendum on the UK's future membership of the EU, more than twice as many voters in Hull voted to leave the EU as those who voted to remain. Voter turnout in the city was c. 63 per cent.

6. WeserWind became insolvent in early 2015.

7. However, plans for the additional facility in the East Riding were subsequently shelved.

8. In Germany grand coalitions are made up of the two largest political parties represented in parliament.

Acknowledgements

References

Anderberg, S. and *Clark, E*. 2013. Green sustainable Öresund region – or eco-branding Copenhagen and Malmö? − In*: I. Vojnovic* (ed.) Sustainability: a global urban context. − East Lansing, MI, Michigan State University Press: 591-610.

Andersson, I. 2016. 'Green cities' going greener? Local environmental policy-making and place branding in the 'Greenest City in Europe'. − European Planning Studies 24(6): 1197-1215.

AWI (Alfred Wegener Institute) 2009: Konzeptstudie Klimastadt Bremerhaven − Bremerhaven, Alfred Wegener Institute.

Bulkeley, *H.* and *Kern, K.* 2006: Local government and governing of climate change in Germany and the UK. − Urban Studies 43(12): 2237-2259.

Centre for Cities 2014: Cities outlook 2014 − London − Online available at: http://www.centreforcities.org/wp-content/uploads/2014/01/14-01-27-Cities-Outlook-2014.pdf. − accessed online 21/1/2015.

Cidell, J. 2015. Performing leadership: municipal green building policies and the city as role model. − Environment and Planning C: Government and Policy 33: 566-579.

Cox, K.R. and *Mair, A.J.* 1988: Locality and community in the politics of local economic development − Annals of the Association of American Geographers 78: 307-325.

Christopherson, S. 2010: Green dreams in a cold light. − In: *Pike*, A. *Rodriguez-Posé*, A. and *Tomaney*, J. (eds.) Handbook of Local and Regional Development. − New York, Routledge: 371-80.

Deutz, P. 2014: A class-based analysis of sustainable development: developing a radical perspective on environmental justice. − Sustainable Development 22(4): 243–252.

EU Commission 2015: EU Action on Climate. − Brussels, European Commission − Online available at: http://ec.europa.eu/clima/policies/brief/eu/index_en.htm − accessed online 7/1/2015.

Gibbs, D.C. 2002: Local economic development and the environment. − London, Routledge.

Gibbs, D.C. and *Jonas, A.E.G.* 2000: Governance and regulation in local environmental policy: the utility of a regime approach. − Geoforum 31: 299-313.

Gibbs, D.C., *Jonas, A.E.G.*, *Reimer, S.* and *Spooner, D.J.* 2001: Governance, institutional capacity and partnership in local economic development: theoretical issues and empirical evidence from the Humber sub-region. − Transactions of the Institute of British Geographers NS 26(1): 103-119.

Gouldson, A. Kerr, N., Topi, C., Dawkins, E, Kuylenstierna, J. and *Pearce, R.* 2013: The economics of low carbon cities. A mini-Stern review for the Humber. − Birmingham/Hull/York/Sheffield/Leeds, Centre for Low Carbon Futures.

Hesse, M. 2015: Selling the region as a hub: the promises, beliefs, and contradictions of economic development strategies attracting logistics and flows. In: *Cidell, J.* and *Prytherch, D.* (eds.) Transport, mobility, and the production of urban space. − London: Routledge: 207-227.

Hughes, L. 2015: Energy Secretary Davey: Siemens visit one of the best days of my life. Hull Daily Mail. 10 January. − Online available at: *http://www.hulldailymail.co.uk/Energy-Secretary-Ed-Davey-Siemens-Hull-visit-best/story-25832877-detail/story.html* − accessed online 21/1/2015.

Hull City Council. 2012a: Energy city Hull. − Hull. − Online available at: http://www.hullcc.gov.uk/portal/page?_pageid=221,696182&_dad=portal&_schema=portal − accessed online 6/1/2015.

Hull City Council 2012b: The green city group. − Hull. − Online available at: http://www.hullcc.gov.uk/portal/page?_pageid=221,700801&_dad=portal&_schema=PORTAL.− accessed online 6/1/2015.

Humber LEP. 2015: Humber Local Enterprise Partnership. − Hull. − Online available at: http://www.humberlep.org/ − accessed online 7/1/2015.

Jonas, A.E.G., While, A.H. and *Gibbs, D.C.* 2004: State modernisation and local strategic selectivity after Local Agenda 21: evidence from three northern English localities. − Policy and Politics 32(2): 151-168.

Jonas, A.E.G., Gibbs, D.C. and *While, A.H.* 2011. The New Urban Politics as a politics of carbon control. − Urban Studies 48: 2537-2544.

Jonas, A.E.G. and *While, A.H.* 2007. Greening the entrepreneurial city. – In: *Krueger, R.* and *Gibbs, D.C.* (eds.) The sustainable development paradox.− New York, Guilford: 123-159.

Kane, R.J. 2005. Compromised police legitimacy as a predictor of crime in structurally disadvantaged communities. – Criminology 43(2): 462-498.

Keil, R. and *J. Graham* (1998) Reasserting nature: constructing urban environments after-Fordism. – In *B. Braun* and *N. Castree* (eds.), Remaking reality: nature at the turn of the millennium. – London, Routledge: 100-125.

Kern, K. and *Bulkeley, H.* 2009. Cities, europeanization and multi-level governance. − Journal of Common Market Studies 47(1): 309-332.

Kingston upon Hull Data Observatory 2017. Population – Hull City Council, Hull. – Online available at: http://109.228.11.121/IAS_Live/bytheme?themeId=3&themeName=Population – accessed online 20/5/2017.

MacKinnon, D. and *Derickson, K.* 2012: From resilience to resourcefulness: a critique of resilience policy and activism.− Progress in Human Geography 37(2): 253-270.

Marsh, G. 2012: UK ports: ready for round 3? − Renewable Energy Focus.com. − Online available at: http://www.renewableenergyfocus.com/view/26350/uk-ports-ready-for-round-3/ − accessed online 1/7/14.

Mederake, L. 2015: Opportunities for the local government of Bremerhaven provided by the project "Klimastadt Bremerhaven" in times of limited municipal room for manoeuvre. − GLOKAL Arbeitspapier zur Nachhaltigkeitspolitik. No.2 - Bremen, University of Applied Sciences.

Monaghan, E., Wurzel, R., Jonas, A.E.G, Gibbs, D., Connelly, J. and *Eden, S.* 2013: New Climate Alliances. − Birmingham/Hull/York/Sheffield/Leeds: Centre for Low Carbon Futures.

NOMIS 2017. Labour market profile – Kingston-upon Hull, City of. – NOMIS Official labour market statistics. − Online available at: https://www.nomisweb.co.uk/reports/lmp/la/1946157109/printable.aspx – accessed online 25/5/2017.

Offshore Wind 2012: UK: Hull must embrace every aspect of low-carbon economy. − OffshoreWIND.biz, 27 April. − Online available at: http://www.offshorewind.biz/2012/04/27/uk-hull-must-embrace-every-aspect-of-low-carbon-economy-says-head-of-kms/. − accessed online 1/7/2014.

Rice, J.L. 2010: Climate, carbon, and territory: greenhouse gas mitigation in Seattle. − Annals of the Association of American Geographers 100: 929-937.

Robinson, J. 2011: Cities in a world of cities: the comparative gesture. − International Journal of Urban and Regional Research 35(1): 1–23.

Scherer, M. 2010: Kommunalpolitik in Bremen. In: Kost, A. and Wheling, H.-G. (eds.) Kommunalpolitik in den Deutschen Ländern.− Wiesbaden, Springer: 120-147.

Short, J. 1999: Urban imagineers: boosterism and the representation of cities. In: *Jonas, A.E.G.* and *Wilson, D.* (eds.) The urban growth machine: critical perspectives two decades later. − Albany NY, State University Press of New York: 37-54.

Sore, A. 2012: Strategien in der Energie und Klimapolitik. Bedingungen strategischer Steuerung der Energiewende in Deutschland und Großbritannien − Wiesbaden, Springer.

Statistisches Landesamt 2016: Statistisches Jahrbuch − Bremen.

While, A.H., Jonas, A.E.G., and *Gibbs, D.C.* 2004: The environment and the entrepreneurial city: searching for a "sustainability fix" in Leeds and Manchester. − International Journal of Urban and Regional Research 28: 549-569.

While, A.H., Jonas, A.E.G. and *Gibbs, D.C.* 2010: From sustainable development to carbon control: the eco-restructuring of the state and the politics of urban and regional development. − Transactions Institute of British Geographers 35(1): 76-93.

Wilson, W.J. 1987. The truly disadvantaged: the inner city, the underclass, and public policy. − Chicago: University of Chicago Press.

Wollmann, H. 2012: Local government reforms in (seven) European countries: between convergent and divergent, conflicting and complementary developments. − Local Government Studies 38(1): 41-70.

Wurzel, R.K.W., Connelly, J. and *Liefferink, D.* 2017: The European Union in international climate change politics. Still taking a lead? − London, Routledge.