**Locating climate adaptation in urban and regional studies**

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**Abstract**

This article adds new insights into the relationship between city-regionalism, the territorial logics of the competition state and how climate adaptation is located in state spaces. Whilst climate adaptation governance is positioned within national economic sectors, we highlight an emerging city-regional policy dimension to such governance. The spatial reconfiguration of climate change adaptation governance reflects a tension between three quite distinct processes: (1) the sector-driven territorial logic of the national competition state; (2) the emergence of city-regionalism as an adaptation governance response to increased competition; and (3) the assertion of ‘national’ political priorities in the implementation of climate adaptation across sub-national territories. Future climate adaptation governance research needs to address the uneasy relationship between the rise of city-regionalism and the sector-led priorities of the competition state.

**Introduction**

This paper aims to add new empirical and theoretical insights to the debate on climate change adaptation and regional and urban studies by linking the analysis of UK climate adaptation policy to city-regionalist political processes and state structures. We argue, firstly, that UK climate adaptation policy has not adjusted to the rise of city-regionalism, and accordingly underplays the role of sub-national political interests and agendas in demarcating specific sectors and scales of adaptation. Secondly, climate adaptation policy has not only been slow to adjust to the rising significance of city-regionalism but also raises strategic policy questions about the longer-term trajectory of climate change adaptation in light of the territorial logic of the national competition state which currently frames effective adaptation planning, action and policy at sub-national political scales.

Drawing upon a study of UK adaptation policy and governance, this article challenges current orthodoxy that uncritically locates effective climate adaptation exclusively within national economic sectors but ignores sub-national political interests, processes and state structures especially those coalescing around city-regionalist agendas. Although climate adaptation policy is rapidly being adopted by many nations (Massey, Biesbroek, Huitema, & Jordan, 2014), the UK state has arguably been ahead of the curve on climate adaptation policy since the 2008 Climate Change Act (Biesbroek et al., 2010). Nonetheless, UK climate adaptation policy has hitherto been delivered at the national scale through the UK National Adaptation Programme (England) (DEFRA, 2013), the Adaptation Delivery Plan: Climate Change Strategy for Wales (2010), Sector Action Plans (Scotland) (2009), Scottish Climate Change Adaptation Programme (2013), and more recently the UK Climate Change Risk Assessment Evidence Report (Committee on Climate Change, 2017b). This positioning corresponds with the internationalisation agenda of the UK ‘competition state’, defined here as the state moving away from a welfare orientation by promoting increased marketisation through the liberalisation of cross-border trade and capital flows, re-commodifying labour, and privatizing public services (Genschel & Seelkopf, 2015). Yet it fails to acknowledge other politico-spatial pressures that contribute to the devolved and politically fragmented character of climate adaptation governance, including the rise of city-regionalism as a discrete space of state policymaking and the re-assertion of ‘national’ political agendas in climate change adaptation governance across UK sub-national territories. Based upon evidence from the UK, it is suggested that adaptation is being sub-nationally reconstituted within a one-size fits all international competition state framework that fails to recognise how effective adaptation action needs to be move beyond dominant competitiveness discourses and engage with a range of local public, private and third sector stakeholders especially those engaged in city-regional processes.

We are cognizant that adaptation research in other countries, particularly in the Global South, have shown how different mapping techniques for adaptation and resilience planning at the city scale are heterogeneous, producing diverse understandings of resilience (Borie, Ziervogel, et al., 2019). Likewise, in the Global North climate policy is increasingly led by sub-national territories and cities rather than national government, especially in the United States where the federal government is no longer committed to recent international climate agreements. However, the UK climate policy experience has tended to be more state-led, with national policy often dictating what local authorities (e.g. city councils) should be doing. The UK developmental context is certainly different from countries and cities of the Global South (Borie, Pelling, Ziervogel, & Hyams, 2019), yet regardless of developmental contexts, if countries need to formally legislate for climate change adaptation *all* need to be more cognizant of respective place-based attributes and experiences to ensure climate adaptation policy is locally fit-for-purpose and takes into account the co-production roles of different urban and regional stakeholders (Borie, Ziervogel, et al., 2019; Howarth, Morse-Jones, Brooks, & Kythreotis, 2018).

Drawing upon findings of research conducted in three UK devolved sub-national territories (England, Scotland and Wales) between 2014 and 2017, this paper identifies three distinct processes shaping the strategic position of climate adaptation policy in the UK: (1) sector-driven territorial logic of the national competition state; (2) emergence of city-regionalism as an adaptation governance response to increased competition; and (3) the distinctive role that ‘national’ political priorities play in implementing climate adaptation across sub-national territories. The empirical research involved 28 interviews with a range of climate adaptation governance and policy stakeholders in: Cardiff (Wales); Glasgow (Scotland); and the Yorkshire and Humber region (comprising Leeds, York and Hull) (England). Cardiff and Glasgow were obvious city-region choices due to their physical territorial size and influence as urban centres within Wales and Scotland respectively. The Humber region has shown particular social and political unrest through being a pro-Brexit region, yet is also a climate impact hotspot given the importance of the Humber estuary to the region’s physical geography and emerging renewable energy industry. More generally, these city-regions were selected to capture (a) the increasing importance of the city-region scale in national and sub-national territorial policymaking in the UK (and hence also more widely) and (b) differences in how each devolved sub-national territories have dealt with the challenges of climate adaptation.

The interviews reveal how climate adaptation policy has been slow to adjust to the rising significance of city-regionalism and national political interests in demarcating specific sectors *and* scales of adaptation planning in UK devolved sub-national territories. At a practical level, the single-minded pursuit of ‘sectoral adaptation’ as a central plank of international state competitiveness agendas hinders the communication of adaptation best-practice between policymakers and communities across different sub-national territorial policy spaces. This contradicts much of the adaptation planning literature which argues developing long-term adaptive capacity should be primarily through state rescaling and polycentric governance (e.g. Adger, Arnell, & Tompkins, 2005; Amundsen, Berglund, & Westskog, 2010; Juhola & Westerhoff, 2011; Kythreotis & Bristow, 2017; Waters & Barnett, 2018). Despite recent attempts to align sectors and borders in climate risk research (Challinor et al., 2018), there remains significant differences in how these are epistemologically constituted. So, their conflation can be analytically dangerous given that sectors and borders frame specific types of adaptation response. Hence, we argue that future research and evidence that informs climate adaptation policy should pay greater attention to the role of territorial politics and governance in shaping how sector-based strategies are implemented in different national and sub-national (regional and urban) contexts.

Section two discusses the significance of climate adaptation since the accession of the 2008 Climate Change Act, with reference to how the devolved sub-national territories address climate adaptation and to the emergence of city-regions as new state spaces charged with drawing together local authority climate action measures. Section three discusses how the spatial reconfiguration of climate adaptation in the UK has been influenced by the sectoral and territorial imperatives of the competition state. Section four utilises interview data to illustrate how this spatial reconfiguration is shaped by discourses of international competitiveness, city-regionalism and changing sub-national political priorities. We conclude by suggesting that future climate adaptation governance research must address the uneasy relationship between the potential rise of city-regionalism as a distinct characteristic of the competition state, on one hand, and the sector-led priorities of the competition state, on the other.

**2. Climate adaptation policy and the spatial reconfiguration of the state**

Climate adaptation has evolved into an important climate policy imperative at international, national and, increasingly, sub-national scales (e.g. Adger et al., 2005). Much has been written about the complexities of implementing state-led climate adaptation policy in the context of economic globalisation (e.g. Eakin & Lemos, 2006) and the various systemic competition pressures that are put on national states through the global neoliberal project that commodifies natural capital (Clark & York, 2005; Fieldman, 2011). The emergence of resilience as a central policy discourse that justifies this continued global neoliberal paradigm is well documented (e.g. Welsh, 2014), and more recent work highlights the importance of resilience in uniting different social, political and economic priorities in managing urban climate adaptation responses sub-nationally in the UK (Kythreotis, 2018; Kythreotis & Bristow, 2017).

Whilst we are cognisant that higher scale international pressures inevitably encroach upon the abilities of national and local states to implement more effective adaptation responses, there is a need to investigate specific examples of how national states have dealt with ‘downscale’ adaptation policy pressures that materialise sub-nationally. Governments in many countries accept that there will be a need to adjust to the impacts of current warming trends and that impacts will increase in magnitude and severity over the coming years (IPCC, 2014). Moreover, national climate adaptation strategies (as compared to mitigation strategies) have been viewed as constitutive of successfully tackling climate change (Berrang-Ford, Ford, & Paterson, 2011), arguably as a result of failed global mitigation efforts (Bassett & Fogelman, 2013).

National climate adaptation policy in more developed countries is part of a wider process of ‘eco-state restructuring’ whereby national states, including the UK, have responded to growing international environmental legislation by selectively establishing new institutional and governance structures for managing economy-environment tensions at national and sub-national scales (While, Jonas, & Gibbs, 2010). However, in contrast to the forms of eco-state restructuring experienced in low carbon mitigation projects e.g. through bioregions as reconnecting localities with economic globalisation (see Scott Cato, 2012), climate adaptation governance across the UK opens up the possibility of challenging the ‘top down’ territorial logic underlying environmental policymaking in the competition state by exposing emerging national spaces of climate adaptation to sub-national pressures of democratic accountability. This could be viewed as a positive step given the attributes of successful climate adaptation being based upon more locally and place-specific forms of cultural, social and political sensibilities (Adger, Barnett, Brown, Marshall, & O’Brien, 2013; Measham et al., 2011; Vogel & Henstra, 2015). However, any devolved governance agendas are still subjugated by the sectoral approach that dominates UK adaptation policy (Hjerpe, Storbjörk, & Alberth, 2015).

Sub-national climate adaptation responsibility has been highly structured and orchestrated at the UK national policy scale (Coaffee, 2013). Policy has principally evolved out of the 2008 Climate Change Act, which established national strategies on climate mitigation and adaptation. The Act set out a procedure for Climate Change Risk Assessments (CCRA) every five years (2012 and 2017) and led to the creation of a new independent advisory body, the UK Committee on Climate Change (UKCCC), which established an Adaptation Sub-Committee (ASC) to provide expert advice and scrutiny on adaptation. The Act also gave the UK Government an Adaptation Reporting Power (ARP) to direct other organisations (‘Reporting Authorities’) to report on current and future impacts of climate change on such organisations and outline proposals for adaptation.

The evidence-base of climate risks through 2012 CCRA led to the statutory implementation of the UK National Adaptation Programme (NAP) in 2013, principally devised for England, with remaining devolved sub-national territories having to implement their own adaptation programmes: Scottish Adaptation Programme (2013), Welsh Sectoral Adaptation Plans (built on the Wales Climate Strategy 2010) and a cross departmental Northern Ireland Adaptation Programme (2013). Locally-led adaptation action through increased state *and* non-state governance are highly important (DEFRA, 2013), whereby the Local Adaptation Advisory Panel (LAAP) and the network ‘Climate UK’ provided links between central and local governments. Such programmes enabled respective local authorities to work with other public and non-public stakeholders in local adaptation planning, yet it’s not statutory for UK local authorities to report on adaptation actions; stakeholder organisations in the 2012 CCRA did so voluntarily. This confirms critiques of such adaptation programmes for their lack of co-ordination, stakeholder involvement and unclear divisions of responsibilities (Biesbroek et al., 2010).

The 2012 CCRA assessed sectoral risks of climate impacts to the UK to the year 2100, consulting over 500 stakeholders from eleven different sectors (DEFRA, 2012: 17-18). This was used to inform future adaptation planning in the devolved sub-national territories, although Scotland and Wales had already produced specific adaptation plans for various sectors through their own respective devolved government’s environmental assessments and public consultations. The 2008 Climate Change Act also enabled government ministers to direct certain bodies to prepare reports on adaptation. The sectoral approach to adaptation was adopted by all devolved sub-national territories in some form, although each approach was allied through a risk-based sectoral approach to managing climate adaptation across the UK state (Table 1). The shaded area illustrates the most important sectors as defined through each devolved sectoral plan. Northern Ireland is included for devolved sectoral comparison purposes but was not part of the research. Getting cross-sectional responses was important because England, Scotland and Wales have approached adaptation policy in different ways because devolution has given each sub-national territory certain policy autonomies, despite being statutorily bounded by the 2008 Climate Change Act. The Act required a UK policy framework for national risk assessments every five years, a UK Committee on Climate Change (which comprises an adaptation sub-committee), the National Adaptation Programme (NAP) and the UK Adaptation Reporting Power (Committee on Climate Change, 2017a).

Though bounded by the UK Climate Act, devolved sub-national territories also had their own specific legislation and policy programmes. Hence, Wales and Scotland can be seen as national spaces in their own right, enabling the researchers to more analytically scrutinise how seriously city-regional adaptation responses were taken by each devolved region. For example, the Climate Change (Scotland) Act of 2009 requires all public bodies (including local authorities) in Scotland to report on adaptation if required by Scottish Ministers. Additionally, Scottish Government funded ‘Adaptation Scotland’ through its own adaptation programme (The Scottish Government, 2013), introducing different adaptation and resilience community-based initiatives. At the time of the research, Wales was already disbanding the Climate Commission for Wales (which had a specific adaptation sub-board to monitor Welsh Government progress on sectoral adaptation plans) and were replacing this with other legally-binding legislation via the 2015 Well-being of Future Generations Act (Future Generations Commissioner for Wales, 2019) which set up seven long-term well-being goals that included a ‘Resilient Wales’. Additionally, the 2016 Wales Environment Act (Legislation.Gov.UK, 2016) attempted to legally marry up Welsh carbon emissions targets with UK 2050 emission targets (e.g. was mitigation focussed), although this Act did not really introduce anything specific related to climate adaptation policy in Wales. England’s adaptation policy progress had been rather stunted at the national scale although the Local Adaptation Advisory Panel (LAAP) was designed to promote adaptation in local councils and draw other non-state governance actors into promoting bespoke local adaptation initiatives across England, especially in light of local sustainability and climate issues being given little emphasis as an inclusive local governance project alongside social and economic development in local authority policymaking, like in previous Local Strategic Partnerships (Kythreotis, 2010). However, local authority adaptation plans in England have since been found wanting in certain sectors like transport (Walker, Adger, & Russel, 2015). Hence, interviewing different governance actors in each sub-national territory of England, Scotland and Wales might reveal something more nuanced about devolved sectoral policy attention to climate adaptation across the UK, as well as revealing how such devolved adaptation plans were strategically aligning sub-national jurisdictional spaces, particularly city-regions, with upscale devolved and UK adaptation policies.

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Table 1 shows firstly the devolved sub-national territorial sectoral focus included in respective adaptation strategies, which could be seen to act as proxies for how seriously each sub-national territory was committed towards climate adaptation. However, we do acknowledge that coverage here could be just a feature of the devolved settlements and not about commitment at all. Secondly, the timings in how each devolved sub-national territory administration were focusing on developing sectoral adaptation plans is significant. Scotland appeared more progressive in formalising adaptation plans for certain sectors in tandem with the 2009 Climate Change Act (Scotland). In comparison to other countries, it is important to note that other devolved UK sub-national territories, like England, also developed climate adaptation as a distinct policy strategy through substantive authority (e.g. a legal framework), institutional order (e.g. ministerial responsibilities and mechanisms) and substantive expertise (policy documents and a cross-cutting governance structure that involves state and non-state actors) (Massey & Huitema, 2012). In this sense, the UK state could be viewed as an international forerunner in climate adaptation policy (Massey et al., 2014; Tangney & Howes, 2016), but there were (are) important differences within the UK state that distinguish each devolved sub-national territories urgency and attention towards a robust adaptation agenda. Indeed, the current 2017 CCRA reflects the urgency of climate adaptation assessment by bestowing a range of urgency scores (confidence levels) for environmental risks across different sectoral areas that encompass natural environments and natural assets (Committee on Climate Change, 2017b, p. 9).

Therefore, the UK approach to adaptation since the 2008 Climate Change Act has become more normatively attuned to both devolved sub-national territorial and local needs and risks. However, whilst there were policy examples and institutional support mechanisms of ‘joined-up’ governance between sub-national territorial and local jurisdictions, like the LAAP and Climate UK, much of the evidence-base of risks regarding adaptation have been developed through the CCRA that took a sectoral approach to analysing climate risks. Hence, we argue that, on one hand, the UK state programme of adaptation has rescaled adaptation as an extra-territorial governance project across all the devolved sub-national territories. Yet on the other hand, the way in which sectoral risks have become a cornerstone of the very same UK state policy on adaptation points to a more nuanced tension in the territorial governance logics of climate adaptation in the UK today; one that positions the UK central state as maintaining ultimate control over how adaptation is discursively framed as a sub-national political governance project. Climate risk assessments are inevitably constrained by underlying normative values and goals that can constrain successful adaptation response (Adger, Brown, & Surminski, 2018). Such values and goals will inevitably be exacerbated and influenced by the Brexit process as the UK government moves to transpose European Union (EU) environmental legislation into UK law. Early indications at the time of writing suggest that climate-related legislation and subsequent planning may suffer (Cowell, 2017; Hepburn & Teytelboym, 2017) and climate targets previously driven through EU membership may be under-prioritised as the UK seeks to cement new free trade agreements around the world (Rayner & Jordan, 2016; Scott, 2016). At the UK national level, DEFRAs launch of the 2017 CCRA Evidence Report was given little publicity by DEFRA in comparison to the 2012 CCRA Evidence Report, and the 2017 CCRA was significantly under-resourced compared to the 2012 CCRA (Howarth et al., 2018). The 2017 CCRA is based upon economic urgency and the effects of adaptation and socio-economic change on risk, whereas the 2012 CCRA did not include the effects of planned adaptation or socio-economic effects beyond population control (Humphrey, 2015). These recent UK climate adaptation policy horizons show how its governance will undergo significant spatial reconfigurations as the UK state attempts to discursively frame, strategically-steer and align future climate adaptation policy with more pressing extra-economic priorities through reinforcing a sectoral risk-based approach.

**3 Climate change adaptation and the rise of city-regionalism**

There has been growing academic interest in describing and explaining the scalar politics of climate change governance (see Bulkeley, 2005), yet the emergence of city-regionalism as a ‘new state space’ (Brenner, 2004) with potential responsibility for climate adaptation remains under-researched.[[1]](#footnote-1) Whilst we recognise that effective urban adaptation policy and practice is highly contingent on the ‘activity space’ of the particular country in question (Pelling, O’Brien, & Matyas, 2015), hitherto research on city-regionalism has prioritised analysis of a possible causal relationship between the rise of competitive forms of city-regional governance and administration, on the one hand, and the internationalisation of the competition state, on the other (e.g. Jonas, 2013; Wachsmuth, 2017). Recent work also suggests that the rise of city-regionalism as a domestic policy agenda further reflects how the state has sought to reconfigure territory in response to a host of pressing national political problems and tensions linked with globalisation, climate change and security (Harrison, 2010; Jonas & Moisio, 2018). For example, city response to climate change can benefit from a range of performance management criteria to better allocate resources and make more accountable streamlined decisions regarding climate change strategies (Jones, 2018). So, although climate change is increasingly recognised and framed as a source of ongoing tension in the competition state, little has been written on its role in shaping contemporary territorial politics of city-regionalism within an economically developed national context where overarching statutory legislation is highly developed (e.g. UK at large) yet can be politically (re)constituted and (re)framed through certain institutionalised devolved powers of sub-national territories (e.g. Scotland, Wales, Northern Ireland). Therefore, the UK is a unique opportunity to examine how adaptation policy is absorbed into territorial political processes and state structures.

There is growing evidence that city-regionalism is not solely framed by discourses of international competitiveness but also a variety of other social, political and environmental agendas, including sustainable development (Krueger & Gibbs, 2010). As cities around the world plan for both climate mitigation and adaptation (Bulkeley, 2013), city-regionalism is associated with new forms of collective action around social and environmental provision. Yet at the same time city-regions have ‘omnipresent institutional legacies’ (see Peck, 2016) that either enable or disable their ability to promote climate adaptation. For example, climate adaptation is being framed as a governance discourse across the devolved sub-national territories of the UK through the emergence of a more economically-centric resilience agenda for climate change policy and planning sub-nationally in the UK (Howarth & Brooks, 2017; Kythreotis & Bristow, 2017). The focus on sectoral risks in the CCRAs for each devolved sub-national territories could illustrate the emergence of a UK state-wide adaptation policy agenda governed by competition state territorial logics (that economically manage adaptation responses in the short-term), rather than adaptation being seen as a subjective socio-political and cultural process that requires more transformative, long-term anticipatory pathways of policy response (Adger et al., 2013; Eriksen, Nightingale, & Eakin, 2015; Kythreotis & Bristow, 2017).

As is the case for other aspects of urban and regional governance, climate-related policies and capacities increasingly draw on social relations and political structures extending well beyond the jurisdictional limits of the city-region, which in turn bring national and international economic and political priorities into the analytical frame of the region (Allen & Cochrane, 2007; Kythreotis, 2018; Prytherch, 2010). Climate governance in the UK has been shaped by more than forty years of international and national environmental regulation, the scale, scope and reach of which has broadened and deepened over time in response to rapidly-changing global and national political circumstances (While et al., 2010). Until recently, UK climate change initiatives were developed mainly as a response to measures undertaken at international and European Union (EU) levels. These included the 1997 Kyoto Protocol, the EU’s 2008 effort to allocate territorially-based greenhouse gas emissions (GHGE) reduction targets to its member states and the 2015 Paris Agreement. Under the EU’s 2008 effort sharing decision the UK was allocated a target of 14% CO2 emission reduction by 2020 (Wurzel, Connelly, & Liefferink, 2016). Although the UK government has since ratified the 2015 Paris Agreement, the outcome of UK’s EU membership referendum in favour of leaving the EU has thrown into doubt Britain’s continued commitment to EU climate policies (Rayner & Jordan, 2016). Some argued that UK commitments under the Paris Agreement are unlikely to change after Brexit, and whether its carbon reduction commitments will remain joint with the EU or as a single party remains uncertain (Scott, 2016). Yet there are calls for the UK to include a target for achieving ‘net-zero’ emissions target in its Climate Change Act (Fankhauser, Averchenkova, & Finnegan, 2018) and the UK government has recently announced plans to be carbon emission neutral by 2050 (Harrabin, 2019).

Additionally, UK climate change policy has always emphasised a strong national and sub-national territorial orientation, particularly around GHGE (mitigation) targets as they are directly linked to wider economic policies that emphasise the importance of sub-national contributions to a national low carbon economy agenda. The two main strategies of climate policy (mitigation and adaptation) are fragmented: whilst intrinsically related through practical implementation and management of risks and vulnerabilities at regional and urban scales (Laukkonen et al., 2009), mitigation has been the main focal point of international and national state policies on climate change because of the need to lower GHGEs (Klein, Schipper, & Dessai, 2005). This wider territorial climate policy logic of prioritising lowering emissions first has trickled down to sub-national climate policy agendas, (see Bulkeley, Broto, & Edwards, 2012), resulting in UK local government treating adaptation in an ad-hoc fashion because there lacks political and institutional support from central government (Porter, Demeritt, & Dessai, 2015).

In summary, climate adaptation is developing as a form of sub-national territorial governance in the UK, yet its agenda has been overtly top-down in policy focus (Adger et al., 2018), with little evidence of coherent responses to adaptation as a long-term issue within the devolved sub-national territories (e.g. Flynn, Kythreotis, & Netherwood, 2016) and at local authority/city-regional levels (Kythreotis & Bristow, 2017; Porter et al., 2015). Whereas in developed countries climate actions are coalescing at municipal or sub-national scales (Ford, Berrang-Ford, & Paterson, 2011), in the UK such actions are matched and framed within state competition logics through alignment with different economic sectors (see Table 1). The 2012 and 2017 CCRAs show continued evidence of adaptation being viewed solely in terms of the risks and opportunities emerging out of the physical climatic impacts that are, and will be, experienced across the UK up to 2100 (Committee on Climate Change, 2017b). This is also reflected in the language of policymakers, pointing to a reconfiguration of sub-national adaptation political discourse within blanket neoliberal resilience thinking to incorporate the private sector within such urban territorial logics (Kythreotis & Bristow, 2017; Romsdahl, Kirilenko, Wood, & Hultquist, 2017), where in fact there needs to be greater individual citizen engagement with both the science and policy domains to meet top-down climate targets (Kythreotis et al., 2019). This sub-national adaptation policy ‘deficit’ will only be exacerbated by the UK leaving the EU as international legislation protects UK mitigation, but not adaptation commitments (Farstad, Carter, & Burns, 2018). This only creates a clearer pathway for future sub-national adaptation policy responses to be framed within the bias of national economic sectors that perpetuate the competition state.

**4. Climate adaptation and reconfiguring the UK state**

Here we discuss findings of empirical research conducted in three UK sub-national territories (England, Scotland and Wales) between 2015 and 2017. Our analysis is organised around three distinctive, yet potentially conflictual, processes shaping the strategic position of climate adaptation policy in the UK state: (1) the sector-driven territorial logic of the national competition state; (2) the emergence of city-regionalism as an adaptation governance response to increased competition; and (3) the distinctive role that ‘national’ political priorities play in the implementation of climate adaptation across UK sub-national territories. The findings are based on interviews conducted with 28 national and sub-national climate adaption governance and policy stakeholders in Cardiff city-region (Wales), Glasgow city-region (Scotland), and the Yorkshire and Humber region (comprising Leeds, York and Hull city-regions) (England).

4.1 *Sectoral climate adaptation and state competitiveness*

Although not explicitly referred to in these terms in the interviews, the territorial logic underpinning the competition state emerged as an important issue amongst adaptation stakeholders working across different state jurisdictional scales in the UK. One interviewee who worked at the local authority level and on the Local Adaptation Advisory Panel (LAAP), pointed out tensions between emerging UK state discourses of competitiveness (and austerity) and how this was affecting and shaping UK climate adaptation policy:

*[W]e want to have a prosperous economy… affordable houses… people with the right skills and training…jobs availability, we want inward investment… there is a very clear impact on business if they ignore adaptation measures. It will ultimately impact on their bottom line because their premises are flooded, the infrastructure network is flooded, and they can't get stuff moving... we need to do a little bit more to help businesses understand that by taking resilience and adaptation seriously it can have an impact on their bottom line.*

Climate adaptation is treated by the UK state and major financial sectors as a normative economic policy issue that has not progressed into firmer social and political action sub-nationally – climate adaptation is framed by a discourse of international competitiveness, which in turn chimes with the low carbon city agenda approach by the UK state. Indeed, other work has highlighted how, in spite of the UK Climate Change Act, climate policy has not gained complete political traction and investor confidence because of the immediate costs to the state in having to react to uncertain risks, and there has not been clear evidence of climate policy reform which need to involve changing (sub-national) governance structures and alter existing economic monopolies if to initiate deeper structural political change (Lockwood, 2013).

Although the city-region has unlimited potential as an ‘urban fix’ for such governance working (Carter et al., 2015; Kythreotis & Bristow, 2017), the UK state gives priority to climate mitigation over climate adaptation, as the outcomes are intrinsically related to a more competitive UK state approach:

*[T]here’s still very much a focus in tough economic times on mitigation because you’re going to save money on mitigation… it’s a no brainer. You’re going to reduce your emissions... But other things for adaptation it’s difficult to quantify because it might not be saving money.*

The overriding attention to mitigation in sub-national climate policy discourse is reflected in how local adaptation is approached by the UK state and the devolved sub-national territories. One environmental consultant in Wales pointed out how Welsh Government, through the Climate Change Commission of Wales, was pursuing an agenda for adaptation that focused specifically on sectoral opportunities that aligned with wider UK state economic policy agendas, rather than viewing adaptation as a more spatially discursive political governance construct:

*[T]hat is down to the Climate Change Commission… putting all their bags into this sectoral action plan because it fits well with government. It fits the shape of the organisation… So tackling stuff by sector, if you take agriculture, who are the key actors? NFU, FUW, big agricultural companies, bigger landowners might take some notice, sectoral action plan on the shelf, yes that's very interesting...*

This shows how the drive towards widened sub-national adaptation governance has to contend with a variety of state infrastructural and managerial interferences, which have the power to subvert how adaptation tackles urban and regional vulnerability (Bassett & Fogelman, 2013; Eriksen et al., 2015).

4.2 *Climate adaptation and city-regionalism*

Nonetheless, city-regionalism is not exclusively driven by competitiveness at the expense of issues of social provision (Halbert & Rouanet, 2014; Jonas & Ward, 2007). This sub-section demonstrates how UK climate adaptation policymakers have encountered a range of ongoing infrastructural and collective provision challenges as climate policy has come to ground in UK city-regions. These challenges include issues related to housing, energy, fiscal distribution, planning and the allocation of land uses. For example, one interviewee working for Natural Resources Wales highlighted how housing and transport issues in the Cardiff city-region needed to directly address future climate change:

*I[f] you look at this issue of housing targets… where are 45,000 houses going to be built in Cardiff… if you just look at the city meeting arbitrary targets, then you may not arrive at what is essentially the best… climate change adapted solution… I’d like to see far more explicit recognition in the city-region at that scale of planning for housing.*

Similarly, a local Cardiff council officer highlighted the importance of city-regionalism to wider environmental and climate policy agenda, “*Looking at things like public transport and waste is being considered at the city-region level when you look at project worth and how they’re coming together on that. Maybe the local authorities need to be even bigger…*” This comment was interesting in that the forms of adaptation governance and policy recommended for the city-region actually originate and are influenced by stakeholders beyond the proximity of that specific urban area (Bulkeley & Betsill, 2005), to meet the burgeoning economic priorities of UK city-regions. In Greater Manchester, urban political leaders embed strategic adaptation governance measures within urban spatial planning and policy frameworks by involving different stakeholders above and beyond councillors in Manchester Town Hall in strategies to reduce citizen vulnerability to climate impacts. They simultaneously indirectly meet infrastructural and collective provision challenges like housing development and greater access to sustainable transport (Carter et al., 2015). The Greater Manchester city-regional partnership have recognised the importance of shifting from blanket sectoral adaptation plans that do not take account of the physical/topographical, cultural, economic and political diversities of the surrounding city-region to deal with a variety of climatic impacts, especially flooding (Carter et al., 2015). The issue of using sectoral adaptation plans in dealing with various infrastructural challenges was also raised by another climate consultant interviewee working in the Cardiff city-region:

*[T]ake it down to a local level [where], you get a clear idea of the impacts given the topography, the nature of the rural economy, the number of farms, where they are, where they are related to the water catchments, what the transport infrastructure is like. You get a far more detailed picture… thinking long-term in our business planning, to adapt…* *you can get into the detail of adaptation with a locally proximate picture. Whereas a sectoral action plan, what's that going to achieve? It might nudge government departments... but we shouldn’t be putting all of our eggs in a sectoral action plan basket.*

So, whilst strategically using the city-region to muster adaptation governance support and build widened capacity is an important political tactic, there remains a paradoxical need to practically address local adaptation challenges to prevent maladaptation. This highlights a tension between city-region adaptation being considered by policymakers as a strategic economic tool versus the practical action of adaptation implementation to reduce citizen vulnerability. North et al. (2017) highlight in the context of urban austerity the conflict between effective climate (mitigation) policy implementation and green growth strategies in the post-industrial city of Liverpool. They argue that co-production governance challenges the pre-existing neoliberal consensus of green growth as a framework for implementing and justifying effective climate policy. Future adaptation policy in the UK therefore will continue to be governed by a trade-off between strategy and practical action with respect to climate adaptation.

Other interviewees in the Glasgow city-region pointed out how a new City Deal, like that in Manchester, could attend to this tension by solving infrastructural economic challenges that take account of future climate impacts:

*[C]ritical infrastructure doesn’t begin and end with the boundaries of the city or local government. We also link to the recently announced ‘city deal’, which is the first one in Scotland… similar to the ones in Manchester and elsewhere… it is an infrastructural development … it is often about economic development, roads, rails… we are also looking at an infrastructure that protects, preserves and adapts other forms what is aging and crumbling infrastructure, so key walls along the river, we would also like… a green infrastructure that is a key part of that.*

Another Glasgow city-region interviewee supported the idea of City Deals (agreement between central government and a city to enable it to take greater responsibility of local decisions regarding economic growth and public spending) that encompass the city-region to embed adaptation into infrastructural provision:

*In terms of adaptation action and governance and the relevance of city-regions because of those economic realities of the city-region… [a city deal] makes most sense because of the interaction between river catchments and cities, you know the boundary of the city isn’t the relevant place to stop or to start your kind of governance arrangements or your decision-making processes.*

Our findings illustrate how future infrastructural challenges of UK cities will play a significant role in how adaptation policy is embedded within city-regions. Importantly, it shows how planning adaptation through sectoral-based approaches may not be successful given that effective adaptation action and reducing urban and regional vulnerability relies on a need for policymakers to embrace the idea that city-regions are socially diverse geographical spaces where a ‘one-size fits all’ national adaptation policy framework does not work. Measuring adaptation responses in a more comparable conceptual way has is difficult given the heterogeneity of how different jurisdictional territories respond to climate impacts (Dupuis & Biesbroek, 2013). Nonetheless, city-regions have adopted different climate leadership strategies to deal with infrastructural and collective provision challenges, especially in traditionally structurally disadvantaged cities, but remain dependent on higher political scales to ensure that such leadership can be resourced and supported (Wurzel et al., 2019). Hence, we find that adaptation governance in UK city-regions rely heavily on polycentric systems of policy and governance to ensure that specific city-regional economic and environmental challenges are met.

*4.3* *Climate adaptation and the national question*

Our interviews also highlighted the emergent importance of sub-national priorities, which are increasingly articulated in relation to UK climate adaptation policy. For example, one interviewee from Natural Resources Wales argued how national priorities at the UK level regarding climate change has enabled the Welsh Government to designate other sub-national actors more power in shaping local and regional adaptation policy responses:

*[T]he Climate Change Act 2008… gave the Welsh Government a power to issue guidance to bodies in Wales on how to adapt to climate change… to designate certain key organisations as reporting authorities, and to direct them to produce a report showing how they were adapting to climate change.*

In Scotland, a more developed relationship between national and sub-national stakeholders was in evidence because of national legislation, as mentioned by a Glasgow City Council climate officer:

*Scottish Government sit on Sustainable Glasgow, ahead of climate change… so [we are] very closely linked to them and whatever political aspects within Scotland… we get on well with the civil service on a practical basis, particularly what works in Glasgow works for Scotland… In terms of other partners, we have got a lot of public sector partners [including] the NHS, Strathclyde partnership with transport, a public sector planning organisation, public transport, universities…*

Our interviews found evidence of the devolved sub-national territories making links with sub-national adaptation stakeholders where non-state groups were integral to this new adaptation governance emanating out of national legislation. However, the types of governance promoted tends to coalesce around the idea of sectors as forming the major response to climate adaptation: “*The sectoral adaptation plans are part of Welsh Government’s wider adaptation strategy for bringing action across the five sectors in those plans*.” However, he goes on to explain how some major issues remain the remit of national adaptation policy:

*DEFRAs National Adaptation Programme would pick up things like major infrastructure, but that’s really more or less [of] it… everything else [is] down to Welsh Government to draw up its own adaptation programme.*

This caveat illustrates how transitions from national to sub-national independence on determining the types of adaptation policy responses that are locally implemented remain influenced by national policy priorities that ‘sectoralise’ adaptation responses. This has come under scrutiny from third-sector groups working on environmental issues who felt adaptation was more about the spaces in which people lived rather than sectors. As one climate officer from a third sector organisation working across Wales argued:

*People don’t really know where to start to think about it [climate adaptation]. We did some work with the third sector partnership council… talking to third sector organisations and saying what do you need? … [B]ut they just really didn’t know what’s the next step... So we’ve come to a bit of a block there on it … there’s interest, but people need signposting and some specialist guidance on what to do… people aren’t experts in these fields and it’s such a potentially significant field people think well I can’t just take advice from anyone, it has to be somebody that we respect and we trust.*

Ad-hoc sub-national adaptation policy responses were also highlighted by another climate consultant working with several Welsh local authorities on local climate adaptation:

*[T]he question is, is it going to influence action on the ground? We do have a Climate Change Act. We have an adaptation plan which that's a national framework… we have local authorities there just bumbling along doing what they've always done. Where’s the connect? The connect is in the guideline, the missive, the remit, kind of carrots and sticks to push local authorities to think about this more. And when they think about it more and start developing that local narrative you can get to practical stuff very quickly rather than motional, sectoral and abstract…*

So, whilst national adaptation policy has given sub-national stakeholders the policy tools to actually implement a form of sub-national adaptation governance, this largely depends on local authority will to invoke policy change. Changes to national policy priorities considering Brexit will inevitably have an influence on the way adaptation is positioned and rolled out across the devolved UK sub-national territories. The fact that major infrastructure decisions in the context of adaptation remain in the hands of the NAP, and therefore, this sectoral approach, illustrates an ongoing national-sub-national governance tension. As the same climate consultant continued:

*Well the regional is action… because you have key actors in adaptation working at regional level. So that's definitely about action. I think developing a regional picture is very, very important… We were doing some work in Powys. It was around futures. But involved climate adaptation. We had maps out. And people were there from Ceredigion*… *and all of a sudden, the penny dropped. How reliant Ceredigion was on Powys getting its climate adaptation right because of transport networks… There is a role around infrastructure which is regional and catchment which is regional. So… the local and regional should be about narrative, capturing the risks and opportunities and working on those shared risks and opportunities. But you can't kind of put a fudge in this uniform kind of frame on Wales and say there's five regions where climate adaptation should work.”*

Overall, the ‘national’ question in respect of climate adaptation is a focus of ongoing tension, political debate and negotiations, which are only likely to intensify as the Brexit process unfolds.

**6. Conclusions**

This paper has examined how climate adaptation governance fits within the UK state during a period of profound political tensions and uncertainties which are changing the balance of power between the national UK state, sub-national territories and their constituent city-regions. The question of whether and in what form a discrete ‘national’ policy on climate adaptation exists is rendered increasingly problematic by recent devolutionary trends and the rise of city-regionalist agendas. Considering this, the UK currently offers a unique and timely platform to examine the emerging urban and regional policy horizons with respect to climate adaptation. However, we argue that further research progress on climate governance is hampered by a failure to recognise the rise of city-regionalism as a distinct and causally significant new space of politics and policymaking inside the state.

Drawing upon the findings of interviews with climate adaptation stakeholders, the paper has provided new insights into the way sub-national territories have responded to climate adaptation by incorporating it into sub-national political priorities. Deeper interview analysis reveal interlinked nuanced points regarding sectoral governance of adaptation across sub-national territories. In concluding, we highlight two themes that warrant further theoretically-informed empirical research.

Firstly, we find that current studies of climate adaptation policy are not sufficiently equipped to recognise the rise of city-regionalism and therefore underplay the role of sub-national political interests and agendas in demarcating specific sectors and scales of adaptation planning across regions. The pursuit of ‘sectoral adaptation’ as a central plank of state competitiveness agendas obscures the subtle ways in which adaptation best practice is communicated between policymakers and communities across different sub-national political jurisdictions and policy spaces. Consequently, research on national climate adaptation policy often fails to acknowledge the role of territorial politics in shaping how sector-based strategies are implemented in different national and sub-national (regional and urban) contexts. On the one hand, this sectoral approach enables the state to reign over devolved and sub-national governance adaptation responses and has been influenced by discourses of international competitiveness, city-regionalism and changing sub-national political priorities. On the other hand, city-regionalism has opened up a strategic space for other material interests and rationalities to shape climate adaptation policy from below. Since city-regions are inherently socially diverse spaces where interests in collective social provision often override those relating to economic growth and competition, there is further scope for climate adaptation policy to deviate significantly from the national norm.

Secondly, and focussing more directly on the UK context, climate adaptation policy has not only been slow to adjust to the rising significance of city-regionalism but also raises strategic policy questions about the longer-term trajectory of change as the UK prepares to exit the EU. Notably, there are serious questions raised about the future role of climate governance in the devolved sub-national territories of Scotland and Wales and their relation to the rest of the UK as the terms of EU exit are negotiated. Will sub-national territories want to renegotiate existing climate agreements with UK government? How will national and sub-national climate adaptation policy feed into other policy debates such as future trade agreements with the EU and non-EU partners? How does climate adaptation policy influence the internationalisation of the UK competition state in the medium to long term? Similar questions could likewise inform future research on climate adaptation governance across different national settings and, in so doing, shed further light on the complex and evolving relationships between the rise of city-regionalism, on the one hand, and the sector-led priorities of the competition state, on the other.

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1. This situation is not helped by efforts to ‘flatten’ scale as an ontological construct (Marston, Jones, & Woodward, 2005), which in turn encourage a mistaken view that (sub-national) territorial politics are causally insignificant if not downright antediluvian features in the landscape of state spatial reconfiguration (Jonas, 2012; Morgan, 2007). [↑](#footnote-ref-1)