Co-Opting Policy for Sustainable Development
Exploring The Relationship Between The Low Carbon Coventry 2020 Vision and Urban Planning

Hajir Alttahir
Manchester School of Architecture

Abstract
Within any city, there is a multiplicity of landscapes ranging from natural and human-made physical spaces to the invisible flows of capital, culture, information and policy. The dynamic between public policy and design has a profound effect on architecture and the city, particularly given contemporary challenges such as climate change, shifting demographics, disruptive events, technologies and politics. Recent changes within the UK building process have seen the role of the architect diminished in the design and construction process; however, this paper posits that designers need to engage with policy creation as well as traditional design responsibilities to deliver sustainable cities that serve the public.

This paper examines the city of Coventry's historical cycles of industrial reinvention and the resultant spatial urban regeneration. Qualitative analysis of sustainability policies at international, national, regional and local scales is used in conjunction with spatial quantitative surveys to uncover discrepancies between Low Carbon Coventry 2020 intent with reality. This investigation concludes with the creation of an urban design tool intended to facilitate participatory co-design and planning between various disciplines as well as between city leadership and the public to more effectively spatialise carbon targets and urban possibilities within the sustainability policy framework.

Introduction
Like many cities in the United Kingdom, Coventry is powerfully shaped by post-war urban regeneration policies. With each decade, there has been a tectonic shift in the responsibilities and ownership of the city that parallels global changes in socioeconomic models. In A Brief History of Neoliberalism[1], Harvey argues that we live in a hegemonic reality where all human action now resides within the domain of the marketplace. State assistance increasingly relinquished control to private sector interests; policies were generated to sustain private-sector growth and the acquisition of capital. The restructuring of economic and political frameworks altered urban trajectories and design but given contemporary concerns regarding urban shocks and stresses such as climate change; it is time to reexamine the future of our cities.

Coventry's urban development is inextricably linked to its industrial specialisations, which tend to observe cyclical trends due to its second city status. Industrial entities merged and moved out of the urban centre, or withered due to their small size and stronger external competition; as a consequence, the city's manufacturing base had to continually reinvent itself to retain its skilled workforce, attract immigrant workers, and maintain economic stability. An ecological emphasis, namely a low carbon vision co-opted by the local car manufacturing industry for the production of electric vehicles, is the most recent of these developmental cycles. In the last 15 years, Coventry pursued regeneration schemes intending to have the first carbon-neutral city centre in the UK.

Methods
Over fifty policy documents at differing hierarchical levels; international, national, regional and local are qualitatively analysed in this paper. There was an extensive breadth of information available to collect, map and synthesise. Organisations and documents were chosen dependent on the likelihood that they would influence any top-down process of control or development, this allowed us to compile findings for various tiers, identifying key actors and connections in the low carbon initiative.

Following this phase, the analysis of a selection of critical prominent policy documents helped to ascertain and differentiate the individual focus of each, revealing a shift in document focus between hierarchical grades from emission reduction to energy security to employment generation. The Low Carbon Coventry 2020 strategy was singled out as a critical text due to its local focus, and the shared themes included in it, which we recognised in other policy documents that we reviewed. LCC 2020 offered a comprehensive reference for initial site studies; seven key areas were identified within the strategy for the city to develop as part of a low carbon futures agenda. The successive site visits and analysis sought to record any visible 2020-strategy implementation against the targets set in the document. To pursue a thorough investigation within a limited time, research was confined to city centre specific data primarily because of the LCC 2020 strategy's target of creating the first carbon-neutral city centre within the United Kingdom.

During the site analysis phase, we divided the city centre into quadrants, with each sector scrutinised for physical and spatial low carbon provision. Initial studies focused on electric vehicles and their infrastructure, urban forms that facilitated increased cycling or walking, the supply of recycling facilities for resource recovery, and the allocation of green space concerning climate change adaptation measures. These studies highlighted a chasm between policy intent and low carbon execution in reality, which in turn directed the phase of research to be a comparative analysis between target data and site data. The next step of research explored finding Coventry 2020's gaps and visualising them. The policy documents were analysed again for clear quantitative targets, which many lacked. We mapped any defined goals to their corresponding physical sites. Expanding the Intention versus Reality study, we looked at Coventry Council's reported building efficiencies against thermal heat maps in the form of datascapes, as well as obtaining any available energy performance certificates for the city centre area and comparing actual performance ratings to potential performance ratings. This section culminated in an investigation into which of the targets were possibly achievable and which goals had ambiguous information available to the public.

Coventry Post War Reinvention

Before the devastation and subsequent rebuilding efforts following the Second World War, Coventry's growth pattern has mostly been a result of the large manufacturing complexes on its hinterland. During the industrial rehabilitation of the late 19th century, former weaving factories had been taken over by bicycle and light engineering firms; subsequently, new factories had been erected wherever sites could be found. The central area had become a mix of cramped industrial premises, public buildings, crowded courts, and streets of small terraced houses, served by a mostly medieval road system. The importance of the city as a centre of war munition production made it the target of German air raids in the Second World War. The main blitz attack saw the central shopping area, many public and historical buildings left in ruins. The post-war Gibson reconstruction plan stressed the necessity to cater for motor vehicles in the future but additionally dedicate the centre of the town to pedestrians. New road patterns for the whole city isolated pedestrian traffic in the central area and provided for off-street parking. On the outskirts of Coventry, large factories dating from the inter-war period had increased in size, while several new industrial estates were created, each accommodating several smaller firms. Nearly all the construction connected with the ambitious post-war housing programme had taken place in the outlying areas, where there was a considerable amount of open land. After the abolition of building licences in 1954, many estates were developed by private enterprise. By 1958 the annual output of such dwellings began to overtake that of public corporation dwellings.

Figure 1. Unknown, 1958 Coventry Model of Reconstruction Master Plan. 1958. Photograph. Available from: https://www.coventrytelegraph.net/news/coventry-news/coventry-blitz-world-war-ii-13721053 (accessed December 3, 2019).

Traditionally, Coventry was a working-class city populated by manual labourers with minimal numbers of residents belonging to the long-established social structures of the elite or middles classes. This local nomenclature has, at times, impaired the city's development. National economic growth and social progress have brought both benefits and problems to Coventry. The nineteenth-century witnessed the town plagued by economic stagnation. Coventry's proximity to Birmingham relegated the city to adopt, at best, a secondary role within the region as Birmingham attracted the regional management and capital. Warwick's expansion as the district's administrative hub also posed problems, when Coventry eventually prospered, the city held little appeal to the new generation of industrial managers. These circumstances have caused Coventry to continually reinvent itself to sustain a form of economic stability despite disruptive external influences.

Reinventing Coventry into a Sustainable City

With the encouragement of a collective of both local and global investors, and an intended one billion pound investment the City Council awarded Californian architects Jerde with a master plan commission to promote 'Coventry as a world-class city'[2] in 2007. The ambitious 10-hectare diverse master plan said to be partially inspired by the Gibson plan and intended to transform the city over the course of 20 years, consisted of a vast hybrid retail space underneath an expansive green roof, and surrounded by smaller-scale parks, office spaces, restaurants, cinema and public library facilities[3]. The Jerde plan envisioned cascading public gardens intended to help passively cool the buildings in addition to significantly reducing the city's carbon footprint.

Despite being well-received during public consultations, the council abandoned the master plan. In part due to some criticism it received from professional organisations such as the Commission for Architecture and the Built Environment that felt it ignored the value of the post-war Gibson master plan and the centre's brutalist architecture[4] in favour of a model that was too North American and not in keeping with the municipality's identity[5]. Gibson's original plan saw the city centre as an egalitarian civic space of regeneration rather than a commodification of public space optimised for commercial interests alone[6]. Ultimately the unfortunate timing of the 2008 global recession saw the proposal classified as too risky of an investment for developers given the retail competition from neighbouring cities such as Birmingham and replaced with smaller projects that were part of other regeneration efforts for the city's retail spaces. The expense and resources needed for ambitious citywide plans require the council to try to partner with organisations when

Figure 2. Jerde, Coventry City Centre Master Plan. 2008. Digital Image. Available from: Jerde, https://www.jerde.com/places/detail/coventry-city-centre-master-plan (accessed November 16, 2019).

delivering schemes; this arrangement is also evident in policy creation.

We analysed many critical policies ranging from international to local level against the seven main themes of the LCC 2020 document as the policies frequently have a cascade effect at a local level. The frequency these themes were discussed, whether they were mentioned as concerns or action plans had been created to tackle them, was recorded for each policy. By mapping policy focus, it is evident there is a shift in not only interests but the time taken to create objectives for 10-20 year timescales between policy scales, with a proliferation of concerns and actions at a local level. While the dominant concern at an international level is emissions, local interests tend to centre on economic growth and job creation. The time in which it takes to create and enact various policies varies on international, national, regional and local scales. At a local level, the Coventry Partnership Environment Theme Group organised a series of themed workshops in 2010. Over 100 experts and partners participated in seven half-day themed seminars to produce a vision for 2020 in addition to recommending key action areas. The key themes explored during the inquiries included:

1. Transport,
2. Energy Use,
3. Employment,
4. Local Food Economy,
5. Climate Change Adaptation,
6. Buildings, Houses and City Centre,
7. Resource Recovery.

Figures 3 and 4 illustrate the expanding goals between scales and the short period in which it took to create Coventry's 2020 vision. In contrast, neighbouring Birmingham's Birmingham 2026 policy document included multiple drafts with a draft version produced in December 2007, and the final version of the vision launched in September 2008 included a four-month public consultation period.

Several schemes are in place demonstrating the city's adjustment to a low carbon model; many utilise small aggregate changes to achieve the larger urban targets such as a centrally controlled urban lighting programme, a district heating initiative and increased cycling infrastructure[7]. Many of the physical changes enacted by the city council are operational rather than design orientated. However, policy change influences design and construction, the requirement for new education buildings to not only adhere to BREEAM (Building Research Establishment Environmental Assessment Method) guidelines but achieve an 'Excellent' rating, encouraged many private institutions such as Coventry

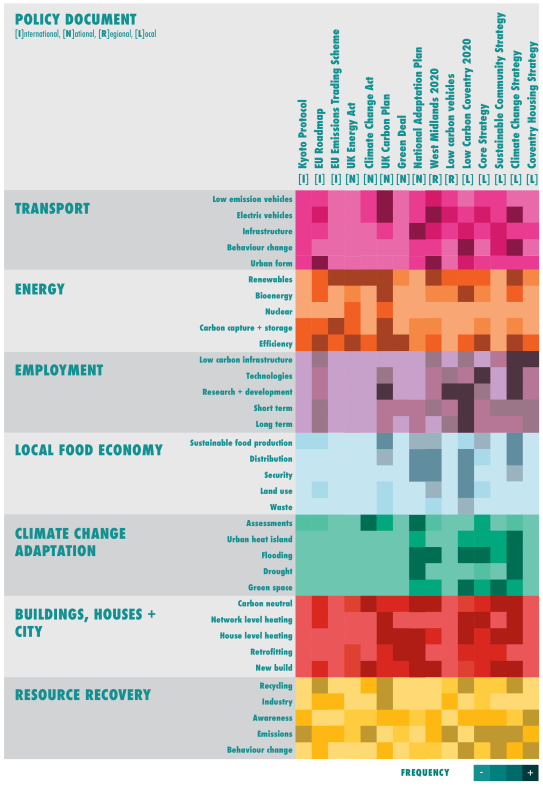

Figure 3. Alttahir et al. Low Carbon Policy Comparative Analysis. 2014. Digital Image. Unpublished.

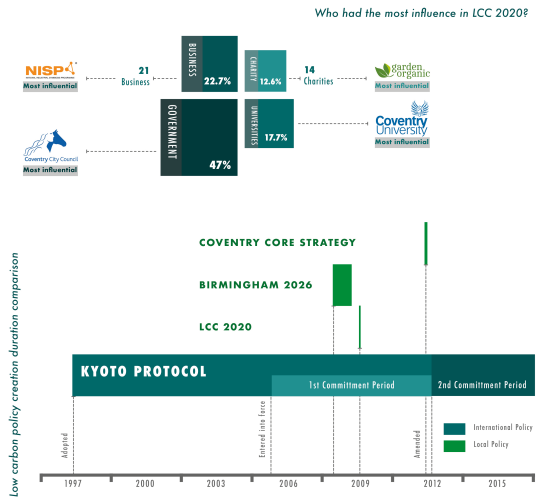

Figure 4. Alttahir et al. LCC 2020 influence and duration comparison. 2014. Digital Image. Unpublished.

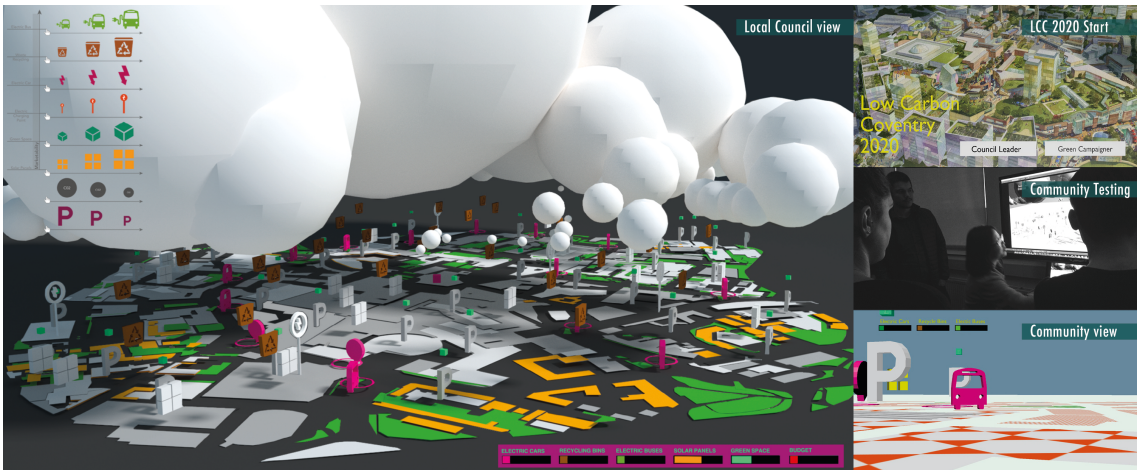

Figure 5. Alttahir et al., Low Carbon Coventry 2020 Game. 2014. Digital Image. Unpublished.

University to invest in new sustainable models such as The Hub and the Engineering and Computing Building which both attained a BREEAM status of 'Excellent'. Outside of the education sector, private businesses are investing in sustainable architecture with Severn Trent Headquarters and the Antsy Park Manufacturing Technology Centre possessing 'Excellent' ratings in addition to growing interest in BREEAM for speculative developments. The improvement to the quality of architectural and urban space on campus for students also won The Hub a RIBA regional award. The multipurpose building is a home away from home for students intended to allow students to access facilities and social learning continuously. In parallel to the BREEAM emphasis on low carbon and low impact design, the architects, Hawkins Brown, designed the building to have a central role in both the campus and the city with an emphasis on circulation and informal spaces.

What appears to be missing in this process is greater public engagement to identify community needs for a better quality of urban life beyond institutional targets. The Intent versus Reality analysis revealed inaccurate reporting of completed initiatives such as missing or inaccessible car charging points for electric vehicles, non-existent cycle routes, and insufficient green and blue infrastructure, namely public spaces, for climate change adaptation. Questions were raised during the analysis as to whether these targets were partially chosen to market and promote Coventry as a sustainable city without investing heavily in lasting urban regeneration.

Many of these targets and restrictions can be modelled and visualised spatially; this approach should be used to encourage participatory urban design. The low carbon vision for the city was poorly communicated with the residents of Coventry, and many did not know of its existence, we believe the tool serves as an exploratory educational device for both the council and the community. Synthesising current conditions, policy intent and budget constraints, we created a digital planning tool to engage multiple stakeholders.

Each subsection of a city has its particular concerns or needs, a councillor, for example, is maybe more concerned about delivering projects within an election cycle and at a specific budget. A marketability metric within the tool showcases changes that are low cost but significantly impact carbon numbers. A resident of a neighbourhood will be more interested in the street-scale interventions such as the provision of charging points for their electric cars or having good quality green public space nearby if they live in an apartment building. As a result, the tool offers two gaming modes; the urban scale of someone such as councillor trying to achieve the policy target, and the neighbourhood scale for residents to raise their desires for their local areas. The goal of both modes is the same, namely to reduce carbon output visualised by the overhead clouds and not run out of money (Game Over). The tool can log what is continuously favoured by the community and highlight what actions are more effective at reaching sustainability targets. By gamifying the 2020 vision, we could explore which changes could impact the goals more effectively, their cost and what is preferred on a local scale to communicate with a broader selection of the community, rather than 100 people chosen to dictate the 2020 vision.

Conclusion

Coventry highlights the critical impact of political and economic conditions that frame urban planning. Large scale urban change with public funding might not be possible; the Jerde proposal also illustrates how vulnerable private development can be. Still, greater engagement and more extended consultation periods do reveal unexpected small scale interventions that on aggregate produce significant urban change. LCC 2020 has succeeded on many targets by achieving small goals that have a cumulative impact. Policy shifts at various scales have the potential to renew and transform urban centres when combined with effective public and professional engagement. As architects and planners, with a broad-ranging view of the development process and a specialised skillset to spatialise goals, we can more effectively facilitate participation in the design of our settlements by understanding that the design process begins in the creation of urban policies and ends in post-occupancy evaluation. We must be more involved as the challenges facing our planet require multidisciplinary viewpoints professionally and more local participation to empower communities and protect our environment.

Bibliography

1. David Harvey, *Brief History Of Neoliberalism, A* (Oxford: Oxford University Press, 2011).
2. Jerde, "JERDE - Places - Coventry City Centre Master Plan", *JERDE*, 2008, https://www.jerde.com/places/detail/coventry-city-centre-master-plan.
3. Schubert, Dirk, Contemporary Perspectives on Jane Jacobs (London: Routledge, 2016).
4. Karl Friedhelm Fischer and Uwe Altrock, *Windows Upon Planning History* (New York: Routledge, 2018).
5. Les Reid, "New £300M Vision For Coventry City Centre Is Unveiled After Plans Are Redrawn", *Coventry Live*, 2012, https://www.coventrytelegraph.net/news/coventry-news/new-300m-vision-coventry-city-3029314.
6. Les Reid, "OPINION: Why Coventry'S Historic City Centre Will Stay And Debate Is Skewed, By Editor Les Reid", *Coventry Observer*, 2018, https://coventryobserver.co.uk/news/opinion-why-coventrys-historic-city-centre-will-stay-and-debate-is-skewed-by-editor-les-reid.
7. Coventry Partnership, Low Carbon Coventry 2020, A Vision For Transforming Our City (Coventry: Coventry Partnership, 2010).