Understanding the varieties of green-driven growth: Cities and renewable energy in the Global South
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Understanding new imaginaries in the urban green economy

Introduction
In recent years, the term ‘green economy’ has become a much disputed terrain. This effect has further been exacerbated since the Rio +20 Conference, which featured the green economy as its main theme. With a growing interest in sustainability among academics, policymakers, and industrial players’ attention has gradually shifted away from achieving unimpeded growth (Fiksel, 2006), and the notions ‘green’, ‘green economy’ and ‘green growth’ have found their place within both policy and academic debates as a consequence (Bulkeley et al, 2013a). At the time of writing however, the established consensus that exists on paper remains rather vague. In fact, the most dominant framing of a green economy in the light of global sustainability governance represents much less a clear guideline for governmental action and instead reflects an indicator for the lowest common dominator. The policy debate mirrors the diverging interests of industrialised countries on the one hand and those of the developing world on the other (Perkins 2013). The industrialised world in 2014 still struggles with a slow economic recovery after financial markets tumbled in 2008, and has embraced the idea of green growth as a potential way out of the financial crisis. In contrast, leaders from the Global South are wary of a greening economy as a one-size-fits-all blueprint for more environmentally friendly economic development. Regarding the latter, the fear is that a strict adherence to sustainability goals could endanger economic ambitions in emerging markets. In other words: the political battle for the most appropriate definition of ‘green’ in the context of economic development is in full swing, and it is not a matter of semantics only. As Bulkeley et al state: “[a]bsolutely central to the ways in which sustainability has been pursued in the many different forums are the governance arrangements through which it has been articulated and contested. The way in which sustainability is conceptualized and
A growing body of literature discusses the varying interpretations of a green economy, and many authors have contributed to this debate in recent years from different theoretical vantage points. These perspectives notably include studies in economics, political economy, governance and also international development studies. Economics scholars tend to critically assess the prospects of green growth, as most of them do not expect a global breakthrough of green technologies as a means to create economic growth in the coming decades (see for example Reilly, 2012, Jaenicke, 2012, Schmalensee 2012). According to Schmalensee for example, policy-makers have thus far failed to acknowledge the likely slowdown of overall growth if a real greening of the economy were to take hold in mainstream economics (Schmalensee, 2012). Authors who have studied firm-level developments support this stance (Plambeck, 2012). A more optimist attitude can be observed across the scholarly contributions from political economy; these emphasise the benefits of an emerging green growth discourse for a new policy agenda. From this point of view, the notion of green growth offsets part of the political standstill in global climate governance (see for example Martinelli and Midttun, 2012, Bulkeley et al, 2013b). Also, numerous green growth policies, in particular in the industrialised world, have increased the pace of innovation in the sector of environmental technologies. Others highlight the need to interpret the potential for green growth policies in the light of multi-level governance arrangements (Schreurs, 2012, Martinelli and Midttun, 2010). A number of authors have also taken up the task to connect the green growth debate to developments in the Global South (see for example Mahama, 2012), even though most of scholarly attention in the field of green growth discusses policies in the 'West'.

Representing the governance perspective, Bina in a recent paper investigates the development of the green economy policy discourse of the last decade (Bina, 2013). She presents a qualitative analysis of selected green economy policy documents, in which she distinguishes between different categories of visions and concludes that there is an overall tendency to focus on a framing that draws on a reductionist notion of human progress. The majority of the assessed texts reflect the will to ‘fix’ the existing paradigm rather than shifting it towards more systemic changes geared at greater sustainability. In other words, there seems to be little evidence from the
current policy discourse that those sustainability agenda’s that are rooted in today’s green economy vision could deliver real change.

The article at hand takes this critical stance as a starting point and aims to contribute to the body of empirical evidence that can confirm or contest Bina’s assessment. In doing so, I attempt to identify, in the words of Bulkeley et al, the “opportunities to advance sustainability” in a context where “the realpolitik of economic growth and security continues to dominate” (Bulkeley et al 2013a, page 958 and 967). In the Global South, we witness a national context in which economic development is not-negotiable because of pertaining poverty rates, insufficient public infrastructure and high unemployment. The question arises: what kind of green growth trajectories could unfold as a consequence, if at all?

Bina introduces a conceptual framework in order to ‘organise’ the various interpretation of green economy. She argues, based on a selected number of important policy documents on the matter, that the current policy debate about green growth is marked by the ‘lack of radical notions’, and instead tend to reflect a reformist agenda. This is an important finding, as green policy advocates highlight the need for radical paradigm shifts. However, her argument is limited to discourse analysis and falls short of providing empirical support for this claim. The article at hand therefore investigates a city case study in order to substantiate, nuance or reject Bina’s conceptual interpretation of green growth.

In doing so, it is justified to go beyond the ‘usual suspects’ in the OECD and instead zoom in on urbanized areas of the Global South. Today’s policy documents have a bias towards the national developments in the OECD – the urban challenges in the Global South have received very limited attention. It is time to redress this imbalance. Given the disproportionately high rates of urbanization in the developing world, the opportunities for sustainability policies to take root are increasingly becoming a question of urban development outside the OECD. The diversity in potential policies is central to this as geography, culture, economic development and related factors all play their part in shaping potential green growth trajectories: decision-makers in a coastal city in Ghana are likely to prioritize it differently from a Chilean mining town. The heterogeneity across urban experiences in the developing world has to be taken into account. In this context, Perkins calls for “transcend[ing] the territorial scale to approach [sustainable de-
velopment] within the context of particular categories of subnational spaces and communities” (Perkins 2013).

Following this line of thought, I present the case of Cape Town, South Africa in order to shed light onto a green economy example from one of the Global South. The city’s renewable energy agenda and its push for the first South African wind farm is generally considered a pioneering effort in urban sustainability policy within the developing world and offers early insights into the the limits and opportunities of sustainability from a municipal perspective.

The article is structured as follows. He next section revisits Dryzek’s and Bina’s categorization of green economy visions. I subsequently highlight the emergent role of municipalities as sustainability actors in the context of a globally interconnected world. The following section describes Cape Town’s sustainability agenda with a particular focus on wind energy and presents an assessment of the various barriers at play when implementing the city’s sustainability ambitions. I then interpret the case study findings in the light of the presented categorization and introduce the notion of green-driven growth. This concept is, I argue, positioned in-between two of Dryzek’s original quadrants. The article closes with recommendations for future research.

**Lacking a radical notion? Tracking the policy discourse on green economy**

Presenting the analysis of 24 influential policy documents on green economy, Bina argues that the current debate is characterized by a tendency to highlight the economic aspects of a greening agenda, therefore combining “environmental and sustainability discourses with industrial and economic policy ones, in search of ‘win-win’ solutions and virtuous circles of progress and prosperity” (Bina, 2013: page 1024).

In order to interpret the differences across the existing visions of green economy, she further develops her own three categories ‘almost business as usual’, ‘greening’ and ‘all change’ and relates them to Dryzek’s four categories of environmental discourse (Dryzek, 2005). These can be ordered into four quadrants. Two axes define these: prosaic vs imaginative on the one hand and reformist vs radical on the other (see figure 1).
In the context of the green economy debate, the imaginative/radical quadrant in the lower right corner and represents a ‘strong’ conception of sustainability, where paradigmatic changes are called for in order to reach sustainability goals. The prosaic/reformist quadrant, Bina argues, represents an ‘almost business as usual’ attitude, where policies are designed to keep intact existing routines, regulations and corresponding market incentives. In other words, there is little appetite in the latter scenario for changes despite an acknowledgement of the need to pursue a reformist agenda. The category ‘greening’ in the top right quadrant refers to a pathway towards an imaginative future (i.e. low-carbon economies), while maintaining the current economic system.

She complements her analysis with introducing three patterns that can be deduced from her discourse analysis: 1) scarcity and limits, 2) means and ends, and 3) reductionism and unity (see also figure 1). In reference to these
patterns, she argues that current policy thinking lacks a reference to limits (planetary boundaries) and is much more based on a technocratic vision of environmental management. The mainstream thinking is positioned far away from defining a clear, ambitious vision on sustainability, and instead focuses on finding the means (finances, regulatory innovations) that can foster gradual reforms. She concludes with a sharp critique on the current policy discourse on green economy, which is marked by the “persisting weak interpretation of sustainable development” in the light of a growing urgency for “nothing less than a different concept of socio-economic progress” (Bina 2013, page 1042).

This interpretation seems justified for the policy discourse as it has been written down in policy documents. This assessment however is based on a macro-level discussion, which pays little attention to the developments ‘on the ground’. The prevailing economic climate in a post-financial crisis era has led to a situation in which international trade trends, GDP growth rates and national unemployment statistics are in the lead when textual references to the green economy are being decided upon. One of the consequences is that the green economy debate as investigated by Bina is marked by national-level policy options such as country-wide regulations, stimulus packages, and the like.

I argue that this focus on high-level policy visions is an important shortcoming. Over recent years, we can observe much more dynamism on the urban level, where city visions are increasingly driving sustainability agenda’s. Gibbs et all refer to these as new imaginaries, explaining that “these approaches not only rely on grand visions of future urban utopias; they also incorporate the rhetoric of ‘practical’ visions and plain ‘common sense’ language, in the process broadening their appeal to contemporary policy agendas across the global landscape” (Gibbs et al, 2013, page 1).

This is in line with the growing recognition that urban regions are seen as major contributors for achieving low-carbon objectives world-wide (Kamal-Chaoui and Robert, 2009, Corfee-Morlot et al, 2009, Bulkeley et al, 2013b). Urban regions are responsible for 75 per cent of world-wide carbon emissions, and this figure is expected to rise further in the coming decades (Kamal-Chaoui and Robert, 2009). Rapid urbanization and resulting pollution levels in cities are viewed as a catalyzing factor in this, adding urgency to the perception that urban authorities have to move quickly in developing
adequate local environmental policies. As a consequence, we observe the emergence of a new breed of inter-connected urban leaders who have taken steps to link up with like-minded policy-makers, developing sustainability agenda’s, green growth strategies and establishing low-carbon networks, such as ICLEI, the C40 Initiative or the Covenant of Mayors.

Often, the room to manoeuvre for city authorities remains limited because national regulation, budgetary pressure and lack of adequate expertise can present major barriers to taking initiative. This holds particularly true for cities in the Global South, where financial considerations are much more scarcity-driven than in their (albeit also crisis-ridden) Northern counterparts. At the same time, there are good reasons to highlight the need to address the emergence of urban sustainability policies in the developing world. With rising living standards, industrial pollution, resource use and environmental degradation could soon become the greatest challenge for decision-makers in the Global South. In the light of this increasing urgency, a growing number of city authorities have taken concrete steps to support (local) sustainability initiatives.

Cape Town is illustrative for Africa’s urbanization challenge. While the number of Asian cities is growing at a rapid pace and receives a major share of scholarly attention, it is the African continent where the most rapid urbanization takes place (United Nations, 2011; Cohen, 2006). On average, only 39 per cent of the continent’s current population lives in cities (United Nations, 2011); by 2035, it is expected that half will live in urban agglomerations (Economist Intelligence Unit, 2011). In terms of energy demand, this means that metropolitan regions in Africa are set to face a significant rise in energy consumption. Few are up to the task both in terms of existing infrastructure or political commitment to stricter environmental regulation. Cape Town is in fact one of the few African cities which has a track record of a bridging the energy agenda with the sustainability agenda: “[w]hat makes the city unique is its impressive efforts to address its carbon footprint” (Economist Intelligence Unit, 2011, page 22).

In the following assessment, a particular focus rests on the renewable energy policies as these constitute an emerging field of interest for sustainability transition studies (see for example Spaeth and Rohracher, 2010, Bosman, 2012, Meadowcroft, 2009 and 2011, Schneidewind and Scheck, 2012) and at the same time are a central aspect of Cape Town’s sustainabil-
ity vision. The presented findings are based on fieldwork in 2010; findings are based on include semi-structures interviews with key players that were involved in either renewable energy policy or the local renewable business. In addition, the results are drawn from an analysis of official (city) documents such as white papers, reports and public announcements as well as online content from media and institutional sources.

**Cape Town’s sustainable energy drive: against the national tide**

Even though sustainable energy is only part of Cape Town’s drive for greater sustainability, it has always been a prominent aspect thereof, and has since gained further momentum. At the time of writing, the city’s wish to increase the municipality’s share of sustainable energy has developed from a vision to a concrete policy agenda, which by now is reflected in a national plan to scale up the deployment of renewables. In order to assess the city’s sustainability policy, it is useful to start with a short overview of the national energy context.

**Cape Town: caught in South Africa’s high-carbon energy system**

With 90 per cent of South Africa’s electricity originating from coal, South Africa stands for one of the cheapest and one of the most polluting electricity supplies in the world. In 2011, more than half of Africa’s energy is consumed in South Africa (SARI, 2011, page 3). The country’s energy sector is dominated by the Electricity Supply Commission (Eskom), which is majority-owned and controlled by the national government. It generates approximately 95 per cent of the electricity used in South Africa. Limited investments in ageing infrastructure have led to a situation in which reserves have fallen significantly and future demand cannot be guaranteed without major changes (Ward and Walsh, 2010, page 3). A large part of the electricity directly goes to 36 large industrial consumers; the remaining electricity mainly goes to the three largest metropolitan areas (Johannesburg, Cape Town and Durban). Municipalities generally buy their electricity from Eskom and then sell it to their citizens, often with an additional service charge. These sales account for a significant part of the municipal revenues and in fact pay for the provision of other services.

Any additional electricity has to be sold to Eskom. So-called Independent Power Producers (IPPs) are obliged to sell to Eskom, which acts as a single
buyer entity. Changes are under way however, as Eskom is under significant pressure to ‘unbundle’ the supply chain it currently controls.\textsuperscript{38} Since 2006 there have been serious national supply crises, coupled with nationwide black-outs. In this context, the Public Enterprises Deputy Minister Enoch Godongwana in 2010 stated that the South African government is going to “put an end to the chapter” of IPPs struggling to conclude power purchase agreements with Eskom. He argued that “we cannot leave that issue to Eskom any longer”.\textsuperscript{39} As a consequence, Eskom’s monopoly is gradually undermined. As part of the on-going renewable energy programme (REIPP), in total 3.725MW of renewable energy are planned to be procured through a public bidding process.\textsuperscript{40} The first two rounds in 2011 and 2012 have each approved 28 and 19 IPPs respectively, totalling 2.459MW, which are expected to be generating energy by 2016. The Integrated Resource Plan 2010-2030 envisages a total of 9 per cent of overall electricity supply to come from renewables (which represents 42 per cent of all newly added capacity (Department of Energy, 2011, page 7).

\textbf{Cape Town’s sustainability agenda}

Cape Town has long been one of the most prominent cities outside the OECD that has put itself on a trajectory towards renewable energy. Already in 1998, the city became a member of the Sustainable Energy and Environment Development (SEED) programme. In 2001 Cape Town became the first city in Africa to agree on an Integrated Metropolitan Environmental Policy, which was then implemented from 2003 onwards (City of Cape Town, 2003). In 2004, city authorities committed themselves to the introduction of solar water heaters across the municipality, and in 2005 established a dedicated office for renewable energy finance and subsidy. In 2006,

\begin{itemize}
  \item \textsuperscript{39} “Power purchase agreements are being prioritised - Deputy Minister” 15 March 2010. Available online: http://www.engineeringnews.co.za. Accessed on 14 June 2013.
  \item \textsuperscript{40} This includes 1.850MW of onshore wind; 200MW concentrated solar thermal and 1.450MW solar photovoltaic on-grid developments, as well as 125MW of smaller tickets for hydro and bio-energy. Source: www.ipprenewables.co.za. Accessed on 14 June 2013.
\end{itemize}
the city presented a comprehensive Energy and Climate Change Strategy (ECCS), defining five energy visions. With these Cape Town defined itself, among others, as: “a leading African city in meeting its energy needs in a sustainable way and thus fulfilling its constitutional and global obligations” (City of Cape Town, 2006, page 19). The 2008 Integrated Development Plan (IDP) stated energy as a strategic focus area for a sustainable city, and the related action plan (ECCAP) includes eleven concrete objectives for the short- and medium term (City of Cape Town, 2011, page 5).

The city’s leadership started as a marginal development within the municipality. As a central figure explained back in 2010, there was a number of key individuals from the environmental resource department who acted as early advocates of a clear sustainability strategy. The municipal vision has been written down in various policy documents of the period 2006 to 2011; a process that reflects the fact that the underlying idea was gradually streamlined across the various municipal departments, and that the political leadership embraced sustainability as a key challenge for the city.

As part of the political vision of a more sustainable energy system, the municipality started to negotiate with the initiators of Africa’s first commercial wind farm. The idea had already been developed in 1996 and foresaw the municipality becoming a renewable energy entrepreneur: the city agreed on a power purchase agreement with a local supplier to buy wind energy from a to-be-built wind farm 70kms north of the city and sell the energy to interested customers within the city’s distribution network. This way, the wind park developers could use the city’s purchase guarantee to secure funding.41 Initiated as a local initiative, it later became a national demonstration project and started to operate in May 2008 after two years of construction. The four 1.3 MW turbines today generate a total output of 13.2 GWh per year. The city of Cape Town signed a power purchase agreement for 20 years, with a premium of 25c/KWh above the Eskom electricity price. From June 2010 onwards, Cape Town’s energy department has been

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41 The required capital for the farm came from a group of companies including the newly established Darling IPP (Darlipp), the nationally-run Central Energy Fund Ltd. (CEF) and the Development Bank of Southern Africa (DBSA). Danish donor money provided an additional grant for the project.

selling this energy to selected consumers in the form of green electricity certificates.42

Whereas Darling is often portrayed as a major success for Cape Town’s green agenda (for example SAWEP, 2011, page 5), planning and implementation has not gone smoothly. As city official explained in 2010: “Darling is a good example of how not to do it.” Rather, the project provides valuable lessons learned on the significant challenges for municipal authorities when acting as a catalyst for local large-scale, commercial energy generation. The partnership between Cape Town and Oelsner Group, the commercial entity behind the Darling wind farm, started with the conclusion of a power purchase agreement in 2006.43 In effect, this municipal engagement provided the needed sales guarantees and made the project economically viable in the first place. In fact, Cape Town could only give this guarantee because of a coincidence. At the time, Cape Town acted as a pilot case for regional electricity distributors. The head supported the Darling initiative. Later, the experiment was cancelled and Cape Town came to bear the financial risk associated with Darling. Insiders argue that Darling would not have been signed without RED support. In the meantime, Eskom guaranteed to provide the transmission lines without charge.44 Overall, a significant share of the project was government-funded. A series of bottlenecks then led to significant delay and disagreement between the involved parties. Until today, only the first four out of 10 planned turbines have been built, and the anticipated turbine type was replaced with a smaller one. When the original supplier pulled out, the IPP looked for a different one. The then-selected replacement had a lower capacity and was a prototype, with uncertified blades. It was anticipated that a large contract with Brazil would co-finance the model’s roll-out. When the Brazilian contract was cancelled, the company ceased its production. Now, the Darling models cannot be ordered for the second phase of the project. In addition, maintenance contracts and related responsibilities have long remained unclear and were subject to a

43 “PPA for South Africa’s first IPP wind farm” Available online: www.wind4africa.net.
44 Some experts suggested that if Eskom were to be split into separate generation and transmission companies, this could result in additional costs for the Darling project.
court-case between the IPP and other financing parties. However, by September 2012, Cape Town had sold certificates for 1.5 GWh in 60 individual transactions.45

**Cape Town’s sustainability narratives**

Looking at the unfolding of Cape Town’s sustainability agenda and how it led to the wind farm project’s eventual implementation, there was an initial shift from environmental to energy security policy. The first push towards a sustainability agenda in 2001 was started by a small group affiliated with the municipality’s environmental resource management department. With two thirds of the city’s CO₂ emissions stemming from electricity use (Ward and Walsh, 2010, page 12) it was clear to this group of early advocates that there was an environmental necessity to promote alternative energy sources. It proved difficult however to convince other departments within the municipality to move in this direction. According to a city official at the time, the financial department in particular was not keen to carry the costs for environmental programmes aimed at promoting alternative energy solutions. Similarly, few saw the potential benefits from a growing renewable energy industry across the metropolitan region. Instead, the argument of energy security proved much more effective in bringing others on board. As a result, energy security ended up as the overarching priority in the city’s official presentation: “[b]ecause of Cape Town’s remoteness from generation, the city is often the first to experience load shedding, and the social and economic impact of this has made energy security a priority” (Ward and Walsh, 2010, page 9). Derived from this single, overarching goal, the ECCAP includes four sub-’criteria’ in order to achieve greater energy security: low carbon, economic development, poverty alleviation and resilient city (City of Cape Town, 2011, page 4). In other words, low-carbon energy solutions and economic development became the preferred catalyst for increasing energy security.

As a result of this energy security priority, Cape Town’s 11 concrete policy targets currently include three that are directly related to securing urban energy supplies: 1) a city-wide 10 per cent reduction in electricity consump-

45 “26 GWhs of green electricity for sale from city of Cape Town”. Available online: www.urbanearth.co.za.
tion by 2012; page 2) a 10 per cent reduction within local authority operations in energy consumption by 2012; and 3) 10 per cent of renewable and cleaner energy supply by 2020 (City of Cape Town, 2011, page 5). The latter stands in contrast to developments on the national level and underscores Cape Town’s role as a frontrunner in matters of sustainable energy: the municipality makes clear that the city plans are much more ambitious than the national ones: “South Africa’s electricity generation investment plan for 2010-2030 does not include significant investment in renewable energy. Only nine per cent of electricity to the grid will be from renewable sources by 2030” (City of Cape Town, 2011, page 17). In other words, Cape Town as a political entity continues to claim a leadership role in South Africa’s sustainable energy landscape. Interestingly, the municipal plan now also includes a clear commitment to the promotion of economic development in the energy sector as one of the 11 objectives. This reflects a shift in the overall attitude across municipal stakeholders: economic benefits from hosting sustainable energy businesses in the city region moved up the priority list. Even more so, the role of a green economy has been given a much more prominent place in the new Integrated Development Plan 2012-2017 under the title ‘An Opportunity City’, compared to renewable energy targets, which is given one small paragraph under air quality management and pollution control (City of Cape Town, 2012, pages 37 and 71).

The emerging focus on the green economy in general and the positive attitude towards potential spin-offs of a booming renewable energy sector in particular are reflected in the broader South African discourse on sustainability. In the course of 2011 and 2012, much was written and communicated about the opportunities of a green economy in South Africa. The Western Cape for example in 2010 published a report on the Greentech opportunities in the province, and the national Department of Trade and Industry presented its Industrial Policy Action Plan – with clear ambitions in the field of renewable energy generation (Department of Trade and Industry, 2011, page 17). The provincial strategy includes the establishment of the Green Cape cluster initiative, which has been created in close cooperation with the municipality and its renewable energy proponents. The initiative brings together business actors in the renewable energy sector. The so-called national New Growth Path from 2010 is thus far the boldest of these documents, envisioning the creation of up to five million jobs in the
green economy, 300,000 of which within the green energy sector (Economic Development Department, 2010, page 12). In a presentation during the run-up to the Rio+20 conference in June 2012, the Environmental Affairs Department listed a total of 12 major initiatives on the national level that are all part of the policy landscape aimed at stimulating the ‘green economy transition’ (Environmental Affairs Department, 2012). Whereas these expectations have to be considered with caution, it is clear that the current policy discourse has changed from a hesitant stance vis-à-vis the renewable energy sector to a more enthusiastic attitude.

The case of Cape Town’s sustainability agenda shows that various pressures for and against a pro-sustainability policy existed, and that they changed over time. So did the way sustainability advocates choose to navigate through the political landscape. In the beginning, those in charge of environmental policy decided that the increase of renewable energy generation would have to be part of the city’s overall strategic aim, driven by the imperative to reduce carbon emissions. Gradually, early advocates recognised that they could create more leverage by emphasising that the energy security imperative and worked on reframing the debate. They started to highlight the benefits of renewable energy in terms of a guaranteed energy supply. From 2010 onwards, reflecting a broader trend towards greening policies on international and national scale, the terminology moved to include “green growth” as a policy narrative. This shift reflected the growing confidence in a ‘greening economy’ and its potential impact on the level of employment generation.

**Barriers to urban sustainability policy**

When assessing the selective pressures at play, it is insightful to zoom in on the different types of barriers that stood in the way of the original ambition. Cape Town’s early drive to promote renewable energy and in particular its experiences with the Darling wind farm reveal some major bottlenecks for implementing a more sustainable energy supply. These can be clustered into institutional, financial and political barriers.

First, institutional barriers stem from the fact that the city in principle has no mandate for energy generation, as this rests with the national authorities. And even though cities own a number of transmission lines and
some power generation infrastructure, all generated power flows into the national grid, and remains under the control of Eskom. On the other hand, municipal authorities manage large parts – 75 per cent – of the distribution network (Ward and Walsh, 2010, page 8), and the responsibility for environmental policies also remains with the municipality. This latter aspect ‘softens’ the existing barriers and opens the door for city authorities to establish policies aimed at influencing energy consumption behaviour within its jurisdiction. Another institutional problem for active policy support regarding renewable energy lies in the acute lack of personnel. According to city officials, this was largely due to other commitments: the FIFA world cup in 2010, dealing with the impact of the economic crisis from 2008 onwards, and fixed expenditures for the municipal rapid bus system. Only after several years of lobbying, the city’s energy department was given five additional staff members from mid-2010 onwards.

Second, financial constraints in Cape Town also pose a significant barrier to the sustainability agenda. The city has long been struggling with a long list of serious issues, including the gap between rich and poor, lack of basic services, unemployment, crime and insufficient housing. Budgetary priorities for municipal action therefore never placed a sustainable development at the top of the list. The fact that renewable energy generation generally requires large up-front investments does not help freeing the adequate capital at the municipal level. In relative terms, renewable energy is simply too expensive in view of other problems. Reinforcing the problem of budgetary resources, and a direct result of the distribution mandate, the city budget is highly dependent on conventional electricity consumption – and de-facto benefit from a business-as-usual scenario. In 2011, the city had a projected income from electricity bills of 802 million Euros, representing 37 per cent of the annual budget (City of Cape Town, 2011, page 19). This dilemma could only be overcome by acknowledging the need to diversify revenue stream away from electricity.

Third, political bottlenecks are at play because of different agendas between local, provincial and national tiers of government. In the case of Cape Town, the provincial government was African National Congress Party (ANC) controlled, while the municipal government remained the only bastion of the opposition party Democratic Alliance (DA). Even though this changed with the DA’s election victory in the Western Cape in 2010, the
national ANC government remains wary of its longtime political rival and is not necessarily keen to support sustainability proposals that are clearly associated with the opposition. Closely linked to the political power play is the lack of public legitimacy, which is another barrier to sustainable energy transitions. Urban citizens expect public services, and electricity (for those who are used to it) is a not-negotiable household commodity. The Darling project has revealed that there is a small portion of the population that is willing to pay a premium for the moral cause, but this kind of support is unlikely to emerge for larger-scale initiatives any time soon.

**Discussion: green-driven growth as a mid-way between prosaic and imaginative**

The presented findings from Cape Town show that the city’s reputation for being a pioneer in sustainability is the result of a cumbersome, gradual process. The path towards an urban renewable energy project offers valuable insights into the realities of a sustainability frontrunner city in the Global South. The evolving policy narrative shows how urban authorities dealt with the limited manoeuvring space in the context of a changing set of policy pressures. The institutional, financial and political barriers discussed in the previous section point out that this policy space was determined by the narrative in which environmental policies are embedded: the city’s environmental ambitions underwent various phases, each of which presented a political compromise. These political deals increasingly acknowledged the importance of environmental action. Over time, the city’s sustainability agenda was increasingly mainstreamed within the municipal management structure, and Cape Town introduced an energy and climate change manager, under the direct supervision of the executive management committee’s energy and climate change subcommittee (Ward and Walsh, 2011).

At the same time, the case of Cape Town highlights the importance of a critical mass of supporters pushing ahead with a joint agenda. When priority themes coincide across different institutional stakeholders, opportunities for moving ahead emerge much faster than if initiatives develop in isolation. When the sustainability agenda was originally devised, it was an environmental concern. There was an early understanding among its advocates that environmental arguments only would do as much to reach policymakers on municipal, provincial or national levels. When energy security
was added to the equation however the issue generated a greater level of interest. Another boost came from the national scale with the argument that South Africa’s overall economy would benefit from a greening path. Green growth is now seen as a major opportunity for South Africa as an emerging market economy.

The empirical evidence supports the view that green economy policies at the time of writing reflect a reformist rather than a radical agenda. Indeed, the Cape Town experience falls within the upper two quadrants of Bina’s categorizations ‘almost business as usual’ and ‘greening’. At the same time, the findings point towards the need for a more nuanced understanding of how green economy visions unfold in practice. Whereas the assessed policy documents leave little reason to believe that there is much interest in radical changes on macro-level, the Cape Town experience shows that 1) the original, more ambitious, ideas originating from the environmental department did succeed in designing an ambitious environmental policy, and to create the manoeuvering space to start with implementation. The findings also confirm that 2) realpolitik considerations indeed slowed down the implementation, leading to a more prosaic framing. It can also be noted that 3) the call for more renewable energy fits well within mainstream policies: the local policy discourse changed from environmental necessity to safeguarding energy supply and then to stimulating the economy (framed as the ‘opportunity city’ in recent policy documents). While the latter two effects de-facto posed a barrier to the original sustainability goals, renewable energy advocates embraced the changing narrative so that the original vision became more aligned with stakeholders from other municipal departments.

The most notable shift is the one that saw the green economy vision taking hold at the national level in South Africa. Bulkeley et al see such a development as part of a wider trend of national authorities pursuing a “green industrial strategy with a view to improving their international competitiveness, take advantage of new markets in environmental technologies and strengthen domestic energy security” (Bulkeley et al, 2013a, page 964). Importantly, this is a much more narrow definition of green economy than offered in inter-governmental green economy publications from e.g. UNEP and OECD, which is more closely related to the notion of an ‘eco-industry’ (Jaenicke and Zieschank, 2011). Here, emphasis is placed on the industrial aspect of a greening economy. This is mirrored in a number of policy ini-
tiatives across the globe, such as US President Obama supporting a green new deal in 2009 and Japan’s Prime Minister Yoshihiko Noda’s call for a ‘green revolution in 2012.\textsuperscript{46} These examples largely reflect a market-based approach, in which the environmental technology industries are considered an additional driver for economic growth. Put differently, there is an expectation that a green economy delivers a variety of clean technologies or ‘cleantech’ industries\textsuperscript{47} and therefore holds the promise of mutual rewards: improving economic performance by creating new business sectors and related jobs while at the same time reducing the overall environmental footprint (see also McCauley and Stephens, 2012).

In order to appreciate the differences between this entrepreneurial green vision and the more general notion of a green economy, it is useful to make a distinction between ‘green-conscious growth’ on the one hand and ‘green-driven growth’ on the other (see also Mans and Meerow, 2012; Mans, 2012). The former refers to an economic strategy aimed at reducing the overall environmental impact. The latter refers to fostering economic growth through environmental innovation. In other words, the concept of green-driven growth assumes that a successful sustainability agenda can “create economic growth not despite being green, but rather because of it” (Mans and Meerow, 2012, page 151). The latter approach is particularly attractive to urban authorities, since it carries the promise of a direct economic benefit for the local business community, driven by an urban sustainability agenda.

The idea of green-driven growth captures well the experience in Cape Town and its push towards renewable energy generation and the subsequent establishment of a business cluster in the Western Cape. It also offers a valuable addition to Bina’s conceptual assessment of the green economy


\textsuperscript{47} Different definitions exist. A common categorisation, introduced by Roland Berger, includes six sub-sectors: 1) environmentally friendly power generation and storage, 2) energy efficiency, 3) material efficiency, 4) waste management and recycling, 5) sustainable water management, and 6) sustainable mobility.
debate. On the one hand green-driven growth is inspired by the wish to pursue an ambitious sustainability agenda (imaginative policies). On the other hand, there is the realisation that economic policies within the existing market structures cannot easily be amended (prosaic policies). This duality positions green-driven growth between Bina’s two reformist categories ‘almost business as usual’ and ‘greening’. Green-driven growth is both linked to the prosaic notion of paradigm fixing (supporting renewable energy and stimulating a new business sector) and it is also embedded in the more imaginative vision of a structural change in to achieve more sustainable urbanism. Looking at the unfolding of Cape Town’s sustainability agenda, it can also be argued that the original ambitions did in fact include elements from Bina’s ‘all change’ category in the radical quadrant (lower right in figure 2). Examples include the end of (fossil) energy sources and the paradigm shift towards a more decentral energy system. Both these more radical notions can be aligned with green-driven growth, and the decision to initiate a renewable energy business cluster in the region.
Figure 2: Introducing green-driven growth as a mid-way between prosaic and imaginative policies (modified from Bina, 2013)

The appeal of a mid-way between the prosaic and the imaginative holds particularly true for the city level: urban decision-makers have witnessed the increased interest in green technologies and the growing number of business opportunities in this field. With energy demand on the rise, the renewable energy sector is both environmental necessity and an economic opportunity for regional development.

Cape Town’s sustainability trajectory further shows that the national policy’s positive stance towards green-driven growth gave a (albeit late) boost to the local renewable energy agenda and that this was instrumental in addressing institutional financial and political barriers. First, local sustainable energy business moved the institutional mandate from national (electricity generation) much closer to the urban (industrial policy); it enlarged the institutional capacities available on municipal level because the industrial departments tend to have resources of their own that can be mobilised additionally. Second, a new industry generates jobs and pays (local) taxes, and
thus contributes to a larger revenue basis – which reduced the impact of (arguments referring to) financial bottlenecks. Third, green-driven growth lowered the threat of political dilemmas. The green economy carries a much more positive connotation than environmental pollution, and offered a way of creating more enthusiasm among third party stakeholders. Public (local) legitimacy can also increase along with green-driven growth itself, as much of the actual economic activity included small and mid-size enterprises. It remains to be seen however whether and if so how Cape Town can translate the current supportive policy climate into concrete leverage for the local business community.

**Conclusion**

In the coming years we can expect many more contributions to the debate about the green economy – be it from academic or policy-oriented angles. This article however highlights the need to take account of empirical evidence in order to appreciate the relationship between high-level policy discourses, the policy debates on lower levels (regional, urban) and the de-facto implementation thereof. In this, the notion of green-driven growth provides a necessary nuance to Bina’s original assessment of the green economy policy discourse. The experience of Cape Town presents one possible attempt in this regard and should be complemented by future studies on comparable city cases in the developing world. With a growing number of city leaders – both in developed and developing countries – who are actively engaged in building alliances to foster sustainability policies, there are many open questions about how sustainability agendas and local, regional economic development are being integrated.

The renewable energy business provides one out of many environmental technologies that could be taken up by urban cluster initiatives. This is particularly relevant to the urbanizing world in the Global South – where energy and other resources are expected to become much scarcer in the coming decade. Other sector-specific clusters with a focus on e.g. sustainable water or transport solutions could have a similar effect on urban sustainability policies. Green-driven growth can thus play the role of a catalyst in bringing about a new breed of decision-makers on the urban level to develop these ‘new imaginaries’ (Perkins, 2013). Scholarly work in this field can contribute to an improved understanding of how these green-driven growth initia-
tives unfold vis-à-vis the higher-level green economy discourse. A central question that needs to be answered in this context: to what extent do green-driven growth visions help achieving local sustainability ambitions on the one hand (e.g. generation of renewable energy), and: do the expected (more prosaic) benefits (e.g. green jobs, new businesses) indeed materialize? Looking ahead, the notion of green-driven growth could help inform an emerging research agenda on urban sustainability transitions in the Global South.
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