Understanding the varieties of green-driven growth: Cities and renewable energy in the Global South
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“The new needs friends. This philosophical note from the Hollywood movie Ratatouille captures the essence of academic scholarship: the continuous quest for alternatives to the status quo.”

This quote is taken from my application letter to the Centre for Innovation, my current employer. It summarises my personal attitude about the dynamics that underpin knowledge creation and knowledge transfer; it also describes the current shifts in the way academic scholarship is practiced in a 21st century. There is a broad consensus that we live in an increasingly interconnected world, where knowledge creation is multi-disciplinary, multi-stakeholder and multi-spatial. As a consequence we observe a growing wish to connect people and ideas across real and imaginary borders. In fact, we have come to appreciate the network society as an important paradigm in which cutting-edge research can – and should – flourish.

In the course of this PhD project I have invested a significant amount of time finding an adequate position within this network society. In retrospect, I have repeatedly struggled to find the best balance between in-depth scholarship on the one hand, and on the other hand exploring new paths towards inter-disciplinary research. The result is a somewhat mixed bag; this dissertation is made up of five separate articles, each of which attempts to provide a timely contribution to the ongoing debates within two different fields of study: economic geography and sustainability transitions.

On a more cautionary note, I should admit that I might have crossed one bridge too many – or better: too early. The current academic debate has only started to touch upon the ramifications of the fact that cities in the Global South are becoming a more integrated part of an emerging global renewable energy business sector. Reliable data on generation and use of renewable energy in cities is hard to find, in particular when looking at urban developments in the Global South. At the time of writing, scholars in economic geography and sustainability transitions have thus far remained relatively separated. Some might argue that there is limited value in merging both discourses. When I look at the data that I have gathered over the years however, I am confident that it is worth
searching for possible synergies. I believe that these two fields of enquiry carry the potential to make a difference: the world’s energy future will have to be answered in a different type of city, which most Europeans have not yet come across in their daily news feeds.

In concrete terms, my ambition to build bridges goes hand in hand with a personal drive to look beyond the usual boundaries. As a result, this PhD project includes a main track as well as a complementary track. These stand for 1) exploring new fields of enquiry, 2) connecting to peers, and 3) engaging with practitioners.

**Explore**

It should not come as a surprise that the ‘explore’ part represents the major share of this dissertation. As many PhD candidates before me have experienced, the match between starting points and final conclusions are seldom what you expect beforehand. I started with my personal curiosity about medium-size cities in the Global South, and I set out to look into the theory explaining how cities position themselves within a global economy. After an initial research period in Khartoum until 2010, I narrowed my research interest to renewable energy and to the business networks that emerge due to an increasing interest in more sustainable forms of energy generation. The dynamics underpinning the world city network provided the backbone of this part of the PhD project. The more I looked at renewable energy and the implications for local economic development, the more I was drawn into the emergent discourse of sustainability transitions. How do municipal authorities view the opportunities emerging from a new business sector? What are the linkages between economic policy and energy policy on the local, provincial and national level? Over time, I became convinced that the best possible contribution would be to bridge economic geography (especially the discourse on the world city network) and sustainability transitions. This holds particularly true for cities in the Global South, as we will likely see many of these urban players claim a much more prominent role in how energy futures are being shaped. It must be noted that on the one hand this represents the greatest bottleneck of my work: many data sources will become significantly more robust only in the future, when renewable energy developments have impacted local, national energy infrastructures and related business sectors. On the other hand, this limitation confirms that this study is very timely: it anticipates upcoming opportunities for academic en-
quiry into energy futures in the Global South. Much of this exploration would have been impossible without the support of a number of individuals, and I am very thankful for their support.


Connect
The professional community in the field of renewable energy has seen a steady growth over the last couple of years. When I started this project in early 2009, there was much less interest in sustainable energy, even less so when it came to linking the topic to urban developments in the Global South. At the time of writing, this community has reached impressive levels, and there is a plethora of people, institutions and projects stretching across academia, politics, business and the public sector. Germany’s Energiewende is one of the most radical examples of how sustainable energy entered the mainstream policy arena. Even if most of the lessons learned in Germany certainly do not apply in cities in the Global South, the underlying dynamics of knowledge creation and knowledge dissemination still serve as a valuable example of how socio-technical transitions can unfold in the 21st century. I have had the opportunity to be part of a unique project at the Institute of Advanced Sustainability Studies (IASS) in Potsdam, which aimed to facilitate a better understanding of the societal impact of the country’s energy transition. This experience provided me with the opportunity to experiment with alternative forms of knowledge creation and dissemination, and to work on a number of publications that are a worthy complementation to, yet not part of this PhD project. I am grateful for being able to work with this inspiring team of creative, insightful professionals, driven by the wish to create better linkages between science and society.

Thank you: Klaus Töpfer, Kathrin Goldammer, David Jacobs, Manuel Rivera, Dolores Volkerts, Petri Hakkarainen and Dominik Schäuble.

Engage
In many instances, academic writing provides an excellent excuse for splen-
did isolation. On the one hand, I have indeed appreciated this feature of scientific work. On the other hand, I had a hard time keeping my hands off the policy practice that had already been part of my professional life before the PhD began to dominate my life. For those who have known me, it comes as no surprise that I kept trying to find ways so that I could combine both worlds. My work as a consultant for the United Nations Environmental Programme in Sudan on energy futures as well as writing a report for the European Coalition on Oil in Sudan meant that much of the understanding of the country’s policy context found its way (be it indirectly) into the analysis presented in this dissertation. I could also deepen my understanding of urban policies in a more general sense during my work on a policy report on urban water management in the Caribbean, which was part of UvA’s Chance2Sustain Project. Another policy-oriented output has come in the form of an ICLEI briefing on the green urban economy, which was presented during the Rio+20 Conference in 2012. I have enjoyed working with many individuals connected to one or more of these projects, and want to take this opportunity to say thank you.

**Thank you:** Thomas Auping, Brendan Bromwich, Fabian Kreuzer, Egbert Wesselink, Hebe Verrest, Richard Simpson and Sara Meerow.

As much as it has been a professional effort, this dissertation marks a very personal journey. Many locations – Khartoum, Cape Town, Abu Dhabi, Casablanca, Nairobi, Rotterdam, Hamburg, Copenhagen, Freiburg, Dublin, Berlin, Potsdam, Amsterdam and The Hague – were part and parcel of my academic enquiry into green-driven growth. These events have changed my life. And it should be said that academic enquiry in fact only had a modest role in this: I moved to Sudan with my new-found love Ingeborg in 2008; my daughter Cleo was born in 2010; I got married to Ingeborg in 2011; and my son Lucas was born in 2012. In other words: it has been an exhilarating five years. Writing a PhD has therefore moved to the sidelines at times, and for the best reason there is: family. Yet, the document you are reading right now would have not been possible without the endless support from Ingeborg – her enthusiasm and co-thinking has improved my work every step along the way.

**Ingeborg:** thank you!