No. 10 | July 2015

IRS AKTUELL

Newsletter for Social Science-Based Spatial Research

Urban Visions

Sustainable and Post-Fossil – Carbon-Free Cities of the Future

Resilient and Social – Urban Infrastructures

Historical and Visionary – Urban Development Yesterday and Today

Post-Carbon Cities of Tomorrow: Pioneers of a Post-Fossil Future for Cities

In the debate about the city of the future, ecological and sustainable redevelopment and the turn away from fossil energy sources occupy a prominent position. It seems as if suitability for the future is largely determined by whether the urban energy transition to a CO_2-neutral city is successful or not. This focus on a vision of a single criterion such as the emission of carbon dioxide does not do justice to the complex reality of cities and there are certainly other urgent social, economic, planning and political questions to answer beyond this. As an approach for research and practice, however, it is not such a blinkered view as it might appear. This is the working hypothesis of the EU project "Post-Carbon Cities of Tomorrow", in which the IRS has joined with twelve European partners to carry out research. Prof. Kristine Kern and Dr. Ross Beveridge have drawn up a detailed summary of the pioneers of a post-fossil future and formulated a comprehensive vision for cities of tomorrow, based on the withdrawal from CO_2 emissions.

The city of Freiburg im Breisgau is regarded throughout Germany as one of the pioneers of sustainable urban development. In recent years, a large number of model homes with low energy consumption have been built, the water and waste cycles have been optimised, the "green city Freiburg" has created a network of businesses in the environmental and solar energy industries in the region and in 2011 the first apartment block in the world that meets the passive house standard was created in the district of Weingarten, following renovation of its energy system. The aim of this and many other projects was and still is the reduction of carbon dioxide emissions. "Climate and environmental issues have moved up the list of priorities of many cities in recent decades", says Prof. Kristine Kern from the "Institutional Change and Regional Public Goods" research department. She has been working on urban environmental and climate policy for many years and holds the professorship of Governance of Urban Infrastructure and Global Change at the University of Potsdam. The example of Freiburg shows, however, that a change in urban development policy from an ecological perspective is certainly not just a matter of the technical feasibility of a reduction in CO_2. For a project of this sort to succeed, social, economic and political factors have to be considered hand in hand with ecological ones – as, for example, in the "green city" cluster, the largest industrial park in the region. "A guiding ecological principle like the one in Freiburg is only truly sustainable if it is viable economically and socially in the long term", explains Dr. Ross Beveridge, Kern's colleague at the IRS.

There are plenty of good ideas like the ones in Freiburg – thousands of urban initiatives for sustainable development can be counted across Europe. Kern and Beveridge with partners from eleven countries have been conducting their research since the start of 2014 in a large EU research project, the aim of

National and European initiatives

Climate change and the transformation in the energy supply will change the cities in the EU permanently over the period up to 2050. Cities are responsible for a large proportion of greenhouse gas emissions, but at the same time they have the greatest potential for innovation and efficiency gains in relation to sustainable development of the environment, business and society. Even if the POCACITO project demonstrates through a multitude of good practices in cities that the resources for the necessary transformation process are in place, the cities themselves cannot take on this task alone or in isolation. "Governance of climate and environmental issues is a multi-layered arrangement in which European, national, transnational and regional stakeholders are involved", says Professor Kern. "All initiatives, be they pioneering urban models of renewable energy or pieces of national legislation, should be analysed not in isolation, but in the context of the entire governance system."

This is precisely what the IRS researchers, in conjunction with the Ecologic Institute, have therefore done in a work package in POCACITO. They drew up a summary of the multi-layered arrangement in European environmental and sustainability policy and noted in the process that of the three main modes of governance (hierarchical, vertical and horizontal), horizontal initiatives are of particular importance. Horizontal means that they operate within one hierarchical level; the best examples are the widespread city partnerships. However, hybrid forms of governance prove to be the most effective, such as when transnational city networks like "Energy Cities" develop an implementation tool for an EU directive on building renovation", concludes Beveridge. The "Covenant of Mayors", an association of over 6,000 cities with almost 200 million inhabitants initiated by the EU Commission, for example, has set itself the aim of exceeding the energy policy targets of the European Union for the reduction of CO_2 emissions by 20 percent by 2020. Kern sits on the Covenant's experts advisory group of eight independent academic advisers.

which is to bring their scattered expertise together into a great vision, a master plan. It bears the title "**Po**st-**Ca**rbon **Ci**ties of **To**morrow – foresight for sustainable pathways towards liveable, affordable and prospering cities in a world context", POCACITO for short, and uses the indicator of carbon dioxide per head as the starting point for solving the great puzzle of urban sustainability policy. "In this context, the term 'carbon-free' cannot be taken literally", says Kern. "We are explicitly including social, economic and political perspectives in the project. Thus, for example, we do not see the energy transition in Germany exclusively as an ecological/technical development, but as a process of change for the whole of society."

The aim of the project is both to develop a well-founded vision and to provide practical expertise for its implementation. "We want both a small town in Finland and a metropolis like Berlin to be able to select something appropriate from the large reservoir of pioneering initiatives and to implement it in its own context", says Beveridge. "Those contexts are extremely different, so the 'post-carbon transitions' that are initiated will be extremely varied too."

In the first project phase, however, the focus has been less on implementation and more on conceptual considerations and establishing an inventory of "leading cities" and "good practices". In the first work package, under the direction of the Ecologic Institute in Berlin, all of the project partners are coming up with a precise concept of what a "post-carbon city" should be. They have so far ascertained that many guiding principles such as the "smart city" or "sustainable town" come close to the vision they are looking for in terms of content, but require considerable fine tuning. Two central perspectives have shaped this conceptual work: on the one hand, the researchers regard cities as complex socio-ecological systems. A change to a post-carbon city therefore also means addressing and resolving

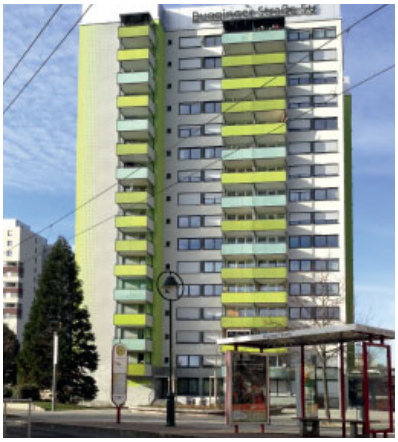
contradictions between the economic, social and ecological spheres. On the other hand, the concept of resilience - taken to mean adaptability and the capacity to transform – is of central importance. As a first milestone, the researchers therefore formulated a definition of their understanding of a post-carbon city and took this as the basis for further work in the project.

In a second step, Kern and Beveridge drew up a comprehensive inventory of pioneering cities and practices by means of which individual aspects of a post-carbon city have already been implemented. Not only concrete building projects such as the passive skyscraper in Freiburg were of interest in this context, but also good models of local action plans (Copenhagen's plan to be the first CO_2-neutral capital city in Europe in 2025, for example) or institutional reforms for improving implementation and participation of the stakeholders in civic society. From the founding of an energy agency to a student competition to design the house of the future, there has been plenty to include under the umbrella of "good practice".

"It was important to us in this context not simply to list what were purported to be 'best practices' but to draw up a more comprehensive, context-sensitive inventory", says Beveridge. Not every practice in every European city is clearly the best approach, a series of contextual factors – starting with size and economic strength – determine what is a promising procedure in each case. Kern and Beveridge have identified a good 250 of such practices – also as a motivation for cities to take their own first steps.

A typology of practices helps to identify potential interventions here. "Our inventory has shown that we do not have to reinvent the city from scratch to make it fit for the future", concludes Kern.

"We want both a small town in Finland and a metropolis like Berlin to be able to select something appropriate from the large reservoir of pioneering initiatives and to implement it in its own context."



"There is already a wealth and variety of good ideas that can be applied in other contexts under certain circumstances." In order to support this process, the academics have drawn up a typology of practices and divided it into fields of intervention – from energy to urban planning. In this way, they have developed a five-stage ideal process for initiating and implementing a "post-carbon transition" and supported it in turn with practical examples.

Following this preliminary work, the POCACITO project is moving into its next project phases in which detailed case studies are being drawn up in eight European cities. In these case studies, a vision and a road map for the period up to 2050 is to be developed by involving politicians and citizens. The project partners are setting up a so-called "marketplace of ideas" that will be maintained as a resource for cities in Europe and the rest of the world. ■

CONTACT

Prof. Kristine Kern,
Tel. +49 3362 793-205
kristine.kern@irs-net.de

Kristine Kern is a research associate in the "Institutional Change and Regional Public Goods" research department and professor of Governance of Urban Infrastructure and Global Change at the University of Potsdam. The political scientist researches into local and regional climate and energy policy, sustainable development of cities and regions, transnational urban networks and macro-regional strategies in the EU.

Dr. Ross Beveridge,
Tel. +49 3362 793-243
ross.berveridge@irs-net.de

Ross Beveridge is a research associate in the "Institutional Change and Regional Public Goods" research department. He studied History and International Studies and completed a doctorate on "Water privatisation and urban policy in Berlin". His research interests are water policy and governance, urban governance and policy, experts and critical policy analysis.

Between Preservation and Change – The Pathway to the Resilient City

The term resilience has had a remarkable history over the last years. From being a specific concept in human ecology and psychology, it has also become a standard term in the social sciences. Even more: resilience could achieve a similarly widespread social significance as the term sustainability did in the 1980s and 1990s. For cities, achieving resilience means guaranteeing security and adaptability and therefore establishing a system that can cope with future challenges of all sorts. In interview, IRS heads of department Prof. Oliver Ibert and Dr. Timothy Moss talk about the power of the term, the advantages of social scientific perspectives on resilience and the problem of achieving a balance between preservation and change.

Resilience means protecting against or the ability to adapt to threatening changes in one's own environment. In the future, what will cities have to protect themselves against in particular?

Oliver Ibert: First of all, we can agree in general that cities are spatial concentrations of resources of all sorts – from social, through economic, to those relating to infrastructure. In cities it is therefore possible to mobilise most resources to defend against threats, but societies are also most vulnerable where their resources are concentrated. That explains why there was such a big sigh of relief after the Fukushima catastrophe, when the air currents took the radiation out over the open sea and not in the direction of Tokyo. As far as urban resilience is concerned, it is only superficially a matter of protecting certain areas, at its core it is a matter of protecting people and social resources.

Timothy Moss: In the last ten to fifteen years it has been noticeable that the protection of critical infrastructure systems has attracted a great deal of attention in cities. The focus here is on issues of security of supply, but also on susceptibility to natural catastrophes and terrorist attacks. Climate change, the energy transition and demographic change have also built up considerable pressure for change in urban systems of infrastructure.

That sounds like a huge and complex task for cities. Is there an ideal approach for creating resilience?

Moss: It's difficult, of course, because first you must answer the tricky question of what the aim of creating resilience actually is. What precisely do I

want to protect? In relation to infrastructure, I may need to protect an existing system and invest in maintaining a centralised system of energy production, for example. But we are seeing that more and more meta goals, such as an ecologically sustainable form of energy generation, are moving to the centre of what is defined as worthy of preserving. This aim of protection therefore sometimes means consciously changing or replacing an established system.

Ibert: At the heart of the concept of resilience is the idea that boundaries are drawn and priorities set, in other words that social negotiation takes place, to determine what cores exist that are worth preserving and which sources of danger should really be taken seriously among a range of potential dangers that in principle is virtually infinite. Such operations to reduce complexity are necessary in order to be able to take action.

At the same time, there is always the danger of overlooking possible side effects in complex systems like cities. If a city drives forward enthusiastically with creating resilience in one area, such as the energy supply, new vulnerabilities can be created at other points. A social scientific perspective of the sort taken by the IRS can be very useful here, even if the risks are partly technical or ecological.

We put the process of perceiving and prioritising threats at the centre and in doing so we can also thematise the "blind spots" that always come about in such construction processes.

What does this mean in practical terms? Does it mean, for example, that frequent power cuts can be regarded as unproblematic in a city and in this case there is no vulnerability to them at all?

Ibert: In principle, yes. Groups are affected differently and also differ in the extent to which they can turn the effect on them into a socially dominant and widely shared perception of a problem, which brings political action in its wake.

One study completed by the "Dynamics of Communication, Knowledge and Spatial Development" research department illustrated this using the example of the cities Rostock and Lübeck. The latter sees an urgent need for action in view of climate change and rising sea levels to protect its historic old town, while Rostock, with the same natural conditions, sees new opportunities for tourism.

At its core, resilience is extremely paradoxical: it is a matter of making continuous development possible without losing the core of what is considered worth preserving.

But this phenomenon also occurs in a chronological perspective, in the change of objectives, prioritisations and possible solutions over time. Perceiving a problem or creating resilience is never permanent, it is constantly being renegotiated.

Moss: We can see this effect in the example of energy and water management in Berlin. In the 1990s, it was believed that putting the infrastructure in the hands of large, private, international companies was the safest solution for price stability, reliability of supply and the capacity to innovate.

In the meantime, both requirements and aims have changed; meta goals such as communities' ability to exercise control or participation and stakeholding have come to be regarded as much more worthy of protection than 15 years ago. It is therefore not a matter of whether I am prepared to put up with power cuts, but rather of how the constructions of vulnerability and resilience are developing.

Do cities therefore have to develop new solutions all the time to maintain their resilience? Or is it enough in some places to maintain the status quo?

Ibert: The concept of resilience provides a very interesting alternative way of thinking about the future. Normally, when we think about the future we always thematise what is new. In other words, what will change in comparison to the status quo? With the concept of resilience, by contrast, we focus on preserving what already exists.

In this context questions arise such as: what is worth keeping for the future? To what extent must these things that

are worth preserving change for their essence to survive? At its core, resilience is therefore extremely paradoxical: it is a matter of making continuous development possible without losing the core of what is considered worth preserving. Look at a product like the Vespa. The product has existed for over 50 years, it has continually developed technically over the years and to an extent, the user groups and the way it is used have changed significantly. Nevertheless, it has been possible to preserve the core idea of the product in its design and even today, a Vespa is immediately recognisable as such.

If you apply this to the future of cities, it means promoting adaptability of precisely that sort, in other words identifying elements that are worth preserving and encouraging their long-term adaptability to future framework conditions that are not entirely foreseeable.

What specifically can you advise cities to do to increase their own resilience?

Moss: From the perspective of infrastructure research, one effective approach is to build redundancies into systems, to take reserves and overcapacity seriously. This can also make sense from an organisational point of view, in connection with catastrophe warning systems or crisis management capacities, for example. But the question is always how great a loss of efficiency you are prepared to accept for the sake of redundancies. This leads inevitably to the second recommendation: cities should always query their needs, determine ways of approaching resilience and thereby put the way they set their priorities on a solid foundation. ■

CONTACT

Prof. Dr. Oliver Ibert,
Tel. +49 3362 793-152,
oliver.ibert@irs-net.de

Oliver Ebert is head of the "Dynamics of Economic Spaces" research department and Professor of Economic Geography at the Free University of Berlin. His current research interests encompass the economic geography of knowledge practices, temporary organisations in economics and planning, user-induced innovation processes, the economic geography of online communities, planning theory and governance.

Dr. Timothy Moss,
Tel. +49 3362 793-185,
timothy.moss@irs-net.de

Timothy Moss is head of the "Institutional Change and Regional Public Goods" research department at the IRS. His research agenda includes institutional analyses, transformations of socio-technical infrastructure systems and spatial governance of climate change.

Everything you need to know about the German Science Year 2015: The IRS "City of the Future" landing page

The cities of the future face numerous different demands. They should be energy-efficient and ecologically sustainable, offer a high quality of life at affordable prices, present themselves as both historically authentic and modern at the same time and, last but not least, be highly innovative and economically strong. At the IRS, researchers from a variety of disciplines are conducting research into these different aspects of how cities can be future-proof and they are making their expertise available to society at large in the German Science Year 2015. On the Science Year landing page, interested readers will find information on IRS activities, dates, articles and topics, projects and experts, together with press reports relating to the topic of the city of the future.

::: www.irs-net.de/zukunftsstadt

Remunicipalisation: A Way Forward for Urban Infrastructures?

Technical infrastructure systems occupy a key role in the ability of cities to cope with the future. In addition to a reliable supply of electricity, gas and water across the board, infrastructures are strategically significant for cities and municipalities in relation to energy transition. In order to exploit this potential, for an ecological redirection of the energy supply, for example, many cities have started taking previously privatised supply and disposal businesses back into public ownership. According to this vision, the capacity to control infrastructure policy will be regained in this way. But this path is not easy or free from conflict, as current research by the IRS in Hamburg and Berlin is showing.

In December 2013, the French company Véolia sold its share of 24.95% in the Berliner Wasserbetriebe (Berlin Waterworks), following the withdrawal of the energy company RWE. Just 14 years after its privatisation and long before the concession contracts ran out, the water supply in Berlin was entirely back in public ownership. This process is not an isolated incident: in Paris and Buenos Aries, too, privatisation of the public infrastructure has been reversed. This poses the question as to what has triggered this strategic U-turn. "Privatisation and commercialisation has been the defining paradigm in relation to urban infrastructure like water or electricity over the last 20 years", explains Dr. Mathias Naumann, one of the research associates in the "Institutional Change and Regional Public Goods" research department. In the 1990s in particular, the principle was that large, international, private companies would be fundamentally more competent and efficient in their work and were therefore a more suitable solution for the future of urban infrastructures. "This is a highly economistic approach that was aimed primarily at financial efficiency", says Naumann.

For some years now, however, there have been signs of a change of paradigm that has several causes. In the first place, the outcome of the privatisations proved to be extremely mixed, price and efficiency promises in particular could not be kept. In Berlin, a guaranteed return for private shareholders combined with a sharp rise in water prices created resentment. "Our research into remunicipalisation and urban infrastructures has revealed that the significant increase in the desire for municipalities to control their affairs and the influence of social movements are even more important", says Naumann. Climate change and the energy transition have shown municipal stakeholders that business efficiency alone is not a measure of the suitability of infrastructures to cope with the future. In order to reach the self-imposed goal of CO_2 reduction, for example, it is necessary to exert influence on the strategic direction of the energy supply companies.

The conditions imposed by the Federal government on energy transition have also been a strong impulse for a decentralised organisational structure of the sector with many new stakeholders, including small, municipal ones. "New municipal companies with a clear mission can be an effective instrument here", says Sören Becker. The example of the "Hamburg Energie" company, which was founded as a local renewable energy supplier and is now an important partner in many decentralised energy transition projects in the region of Hamburg, illustrates this.

It remains open as to how long this change in paradigm towards infrastructures in community hands will last. In itself the rapid swing from privatisation to a wave of remunicipalisation could, on the one hand, be a sign that this is a passing fashion", says Naumann. On the other hand, he can see signs that it may be a process that takes hold in the long term.

"We can see that the vision of a system of urban infrastructure that is prepared for the future has changed significantly and that cities are clawing back tools for sustainable control", concludes Naumann. Superordinate goals, such as social and ecological energy supply, comprehensive reliability of supply and adaptability or strategic support for the urban economy will tend to increase in importance. Hardly any city is therefore prepared to allow further loss of its ability to control its own affairs.

Last but not least, civic society is demanding an ever clearer voice, through popular movements in favour of remunicipalisation, for example, and through the founding of cooperative operating companies. The fact that many of the concession contracts, such as the one for the electricity supply in Berlin, are about to run out opens up opportunities for a number of municipalities to get involved here. Together with Dr. Ross Beveridge, Becker and Naumann have conducted a study into the relationship between infrastructure decisions and social movements.

This has shown that infrastructure is increasingly becoming the subject of conflict. "Especially in the big cities, the initial impulse for remunicipalisation often comes from social movements. Moreover, we often see that the movements – like the network 'Unser Hamburg – Unser Netz' ('Our Hamburg – Our Grid') – subsequently become important partners in discussing energy policy", claims Becker. "On the other hand the discussion about infrastructures overlaps with other conflicts in the city, about urban planning for the Tempelhof airfield in Berlin, for example, or about rising rents."

> "We see that the vision of a system of urban infrastructure that is prepared for the future has changed significantly and that cities are clawing back tools for sustainable control."

Ultimately, the decision to remunicipalise might not always be the easiest route, however: "Winning back the ability to control things is frequently associated with increased costs and, of course, the responsibility of cities for energy policy increases", says Naumann. "So far there has bee no practical test for completed remunicipalisation nor any long-term cost-benefit analysis. The fact that infrastructures are now more in the hands of cities and municipalities does not tell us anything about actual practice". The coming years will therefore show how cities and communities experiment in the context of their infrastructure policies and whether they are able to bring their visions of sustainability and readiness for the future to life in practice. ■

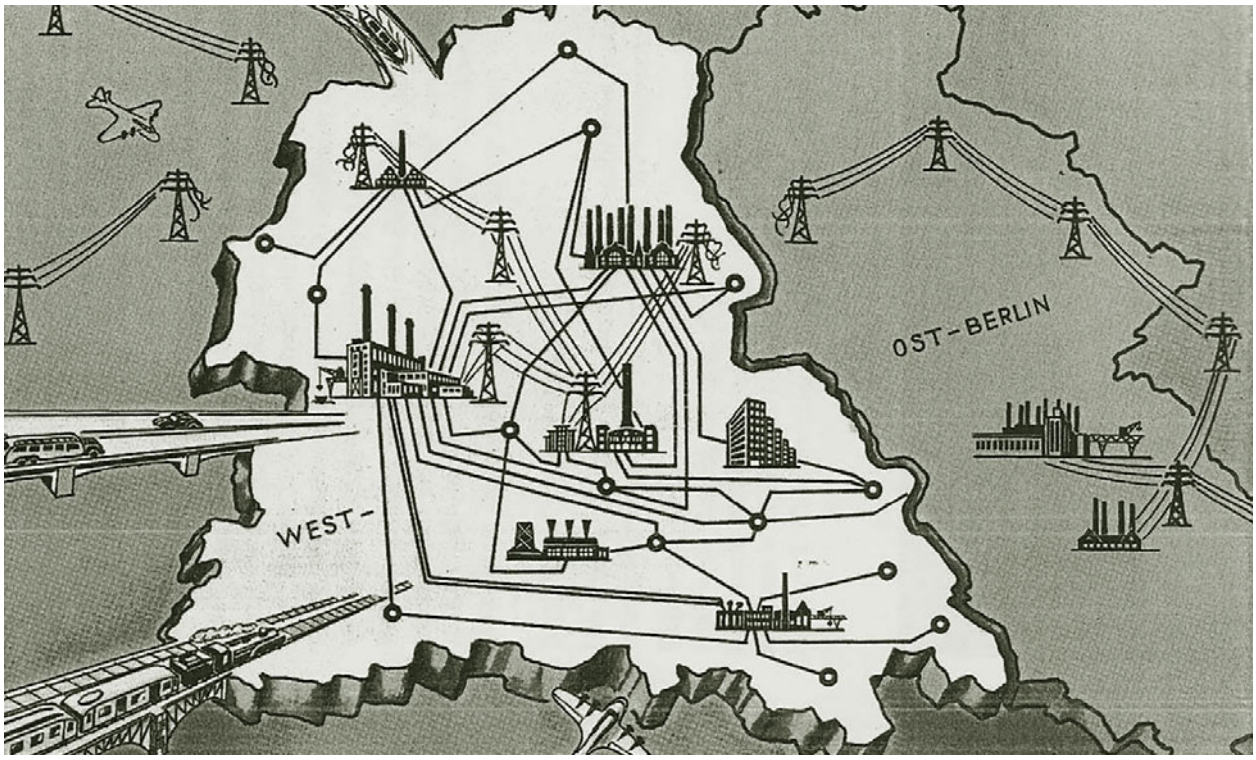
CONTACT

Dr. Matthias Naumann
Tel. +49 3362 793-187,
matthias.naumann@irs-net.de

Matthias Naumann is a research associate in the "Institutional Change and Regional Public Goods" research department. He studied Geography, Sociology and European Ethnography in Berlin and Illinois/USA. His research interests include questions of change in infrastructure and regional development, urban policy and critical approaches in human geography.

Sören Becker,
Tel. +49 3362 793-57,
soeren.becker@irs-net.de

Sören Becker is a research associate and doctoral student in the "Institutional Change and Regional Public Goods" research department. In his dissertation project, he is analysing the process of energy transition using the example of Hamburg. His research interests are institutional change, public welfare objectives and alternative forms of organisation in the energy sector, local democracy and spatial effects of the energy transition.



Legacies of Energy Autarky in Berlin and Hong Kong

Urban energy systems are undergoing radical change worldwide. Technical issues relating to moving away from nuclear power and switching to renewable energies are often discussed in the broad context of the resilience of these systems. Cities have an interest in a secure, environmentally compatible and affordable energy supply – even in an age of scarcer resources and new normative principles as a result of efforts to protect the climate – and in less susceptibility to failures resulting from system error, human failures or terror attacks. Autarky and autonomy in energy infrastructures is regarded in many places as a possible response to these multi-faceted dangers as it offers cities greater ability to control their own affairs.

In 2013, the "International Network on Urban Low Carbon Transitions" (INCUT) was formed at the University of Durham in Great Britain. The network of academics and practitioners has set itself the aim of discussing the responses to climate change that cities all over the world are developing and of analysing them from the perspective of the social sciences. Dr. Timothy Moss and Prof. Kristine Kern from the "Institutional Change and Regional Public Goods" research department are two of the almost 20 researchers, who are part of INCUT. "Within the network, which focuses above all on an exchange of ideas and discussion between the researchers and practitioners, a lively discussion is taking place about energy autarky as a possible measure for cities to take", reports Moss. "This is a discussion of a very positive sort, in which the opportunities for CO_2 reduction and resilience of energy systems are in the foreground." The initiatives of cities such as London and Melbourne, which are increasingly generating electricity in decentralised plants within their own city limits, demonstrate the current popularity of trends towards energy autarky.

Autarky in energy is not a new phenomenon, however; in the recent past, there have been several cases of enforced autarky: as a result of geo-political isolation, West Berlin and Hong Kong had to guarantee their own independent power supply over a long period. When the borders came down following the unifications of 1990 and 1997, the reason for complete autarky in energy also disappeared and both cities made substantial changes to their systems. Together with Maria Francesch-Huidobro from the City University of Hong Kong, who is also a member of INCUT, Timothy Moss has therefore written an article comparing the autarky of Berlin and Hong Kong and the legacies for recent paths of development in the energy systems of the two cities. "The legacy of the systems of autarky is still present and shapes the current adaptation processes and the local energy transitions", stresses Moss. "The historical courses of development explain in part the responses of the cities to the new normative principles."

Berlin and Hong Kong are two cities with unusual histories as far as their energy systems are concerned. Berlin was known as the "electropolis" of Europe in the 1920s and 1930s, partly because of the large number of energy companies in the city and partly because of the ultra modern lighting systems and internationally renowned light festivals.

In 1890, Hong Kong was one of the first cities in eastern Asia with electric street lights and has been known ever since as a pioneer of energy systems in the region. But it is not just the heritage of being "electric icons" that links the two cities, their experience of enforced energy autarky over a long period reveals other parallels. On 24 June 1948, the Soviet Military Administration cut off the three western sectors of Berlin completely from the energy supply system. The supply of coal by rail and ship was also prevented. "The airlift primarily supplied West Berlin with coal, entire generators were even flown in", says Moss.

As early as 1955, West Berlin became independent of imported electricity through massive investment in power stations. Hong Kong, on the other hand, developed an electricity generation and distribution system that was separate from China from the outset, under the colonial rule of the British from 1841 to 1997. The Hong Kong Electricity Company (HEC) operated a monopoly and placed guaranteeing the supply in geo-political isolation at the heart of its endeavours. Until the mid 1990s, the city was entirely independent of imported electricity.

The differences in the experience of autarky in the two cities – sudden isolation in West Berlin compared to many years of developing a autarchic system in Hong Kong – have a crucial influence on the processes of re-integration after 1990 and 1997 respectively. While Berlin completed technical and institutional integration into a Berlin-wide energy system very quickly, the process in Hong Kong has been significantly slower and less comprehensive. "We have identified different legacies of energy autarky, which influence current processes and policies in different ways", says Moss. For example, the question of territorial integrity was very different for Berlin and Hong Kong after unification. While for the German capital, the history of separation and isolation quickly lost its relevance, this is still a key discourse for Hong Kong. "Current debates about close cooperation with China over energy issues are still strongly shaped by fears of a loss of control", says Moss.

In questions relating to the market monopoly, the two cities also differ: in Berlin, Bewag had to face up to liberalisation of the electricity market in 1998 – which turned out to be a bigger challenge than technical re-integration after 1990 – while in Hong Kong the monopoly of the electricity supply company still persists. Furthermore, the heritage of an infrastructure comprising power stations erected to ensure independent supply or the import of raw materials have a considerable influence on the processes of radical change in the 1990s and thereafter. "Both cities opted for fossil fuels in a big way, which caused significant problems for them when the relevance of the CO_2 balance increased significantly in the 1990s", explains Moss.

It is precisely the overlap between historical developments and current processes in the energy sector that makes cities like Berlin and Hong Kong so exciting for energy research. "Here we can investigate not just one energy transition, but two", says Moss. The implementation of a low-carbon agenda overlaps with the process of re-integration into regional and national energy systems and questions relating to the resilience of supply. The legacies of self-reliance often emerge as mortgages that limit the ability of the cities to take action.

This applies, for example, to Berlin's large coal-fired power stations following unification, the existence of large monopolistic suppliers and the absence of a tradition of energy efficiency, which had no relevance for Berlin and Hong Kong because of the predominance of the issue of security of supply and the associated development of over-capacity. These findings point to the fact that energy autarky is a double-edged sword for urban energy systems. ■

CONTACT

Dr. Timothy Moss,
Tel. +49 3362 793-85,
timothy.moss@irs-net.de

Timothy Moss is head of the "Institutional Change and Regional Public Goods" research department at the IRS. His research agenda includes institutional analyses, transformations of socio-technical infrastructure systems and spatial governance of climate change.

IMPRINT

IRS AKTUELL No. 10, July 2015
Newsletter for Social Science-Based Spatial Research

IRS

Publisher:
Leibniz Institute for Regional Development and Structural Planning (IRS)
Flakenstraße 28-31 I 15537 Erkner I Germany
Tel. + 49 33 62 793-0 I Fax + 49 3 62 793-111
zwilling@irs-net.de I ::: www.irs-net.de

The IRS is member of the Leibniz Association.

Director: Prof. Dr. Heiderose Kilper
Staff: Jan Zwilling (v.i.S.d.P.), Petra Koch, Gerhard Mahnken
Layout: Henrika Prochnow

The contributions in this newsletter are a co-product of Jan Zwilling and the reseachers of the IRS.

Pictures:
Cover: from left: © Trish, Solar Tree/flickr.com; © Uwe Hiksch/flickr.com; © Maksym Kozlenko/commons.wikimedia.org/wiki/Würzburg,_Altstadt.jpg; © MissyWegner/commons.wikimedia.org/wiki/Stadträder_Alter_Wall.JPG; © tristan tan/shutterstock.com; © Andrewglaser/commons.wikimedia.org/wiki/SoSie+SoSchiff_Ansicht.jpg; © Reinhard Dietrich/commons.wikimedia.org/wiki/Elektrotankstelle_Reykjavik_2.jpg; p. 2: © Andrewglaser/commons.wikimedia.org/wiki/SoSie+SoSchiff_Ansicht.jpg; p. 4: © Grauer Elefant/commons.wikimedia.org/wiki/Straßenbahn_Freiburg_Weingarten_03.jpg; p. 5: © maudanros/shutterstock.com; p. 6: © Berliner Wassertisch; p. 7: © Brianza2008/commons.wikimedia.org/wiki/Trupia_la_va_in_Vespa.jpg; © Ottili/commons.wikimedia.org/wiki/Vespa_GTS_300_Super_1.jpg; Grafic: © www.freepik.com; p. 8: © Uwe Hiksch/flickr.com; p. 11: commons.wikimedia.org;
Portraits: ©Frank Bentert: p. 4, p. 7, p. 11; ©Nadine Schätzel Baillon: p. 9; more pictures: IRS and privat