

A vision of eco-logistics: green megacities and the responsibility of global players

Gridlocks, formidable environmental problems and huge logistical challenges – there's no better place to see up close what future generations will be up against than the epicenter of China's economic miracle, Shanghai. Here, the key issues are virtually set in stone: How can we avoid the collapse of urban structures? How can we create an environment that keeps life going in the conurbations? And how can we meet the challenges of global warming that is nowhere as acutely obvious as in the megacities? These and other questions were discussed by urban planners, logistics experts and scientists during a Delphi Dialog Deutsche Post DHL hosted in Shanghai.

Being the venue of the Expo 2010, the fast-growing, high-tech, and densely-populated Chinese metropolis of Shanghai is a prime example of what might lie ahead for the human race. According to current forecasts, three of five urban dwellers will live in so-called megacities in 2030, i.e. in cities with more than 10 million inhabitants – with all related ecological and logistical implications. The core city of Shanghai alone is home to 13.5 million people today. The global trend towards urbanization is undiminished: since 2007 already, more than half of the global population has been urban rather than rural.

At the Expo, the Deutsche Post DHL-sponsored Urban Planet pavilion drove home the stark message that urban sprawl and global warming are pressing problems that must be faced up to in the present rather than handed down to our children. 73,084,400 people visited the Expo – no world exposition ever attracted so many visitors. This made for yet another record at Shanghai which also boasted the hitherto largest exposition area and the largest number of participants.

Frank Appel, CEO of the world's leading mail and logistics group Deutsche Post DHL, invited urban planners, logistics specialists and experts from various other sectors to meet for a Delphi Dialog in Shanghai and discuss the challenges arising from megacities and global warming. The two-part event at Shanghai's historic Huangpu river front coincided with the publication of the group's latest report: "Delivering Tomorrow: Towards Sustainable Logistics".

It was the third debate Deutsche Post DHL hosted since publishing its global Delphi Report in 2009, and its message couldn't be clearer: the time when measures by individual countries could have an impact on the future is long past because their very nature prevents them from gaining meaningful traction outside national borders. Yet effective cross-border agreements are all but impossible to

conclude in times of conflicting interests between individual countries or global regions. It will therefore be up to the global players and the private sector to take a leading part in finding new and viable solutions for the coexistence of almost seven billion people. Logistics will be a core discipline in this quest.

A report of the event in two chapters.

Chapter 1: Oxygen for choking megacities

A fast-paced city like Shanghai also requires fast thinking. Deutsche Post DHL therefore asked the guest speakers to deliver inaugural addresses in a suitable format: „PechaKucha“ – a presentation technique that came into being in the designer community of Tokyo and allows a speaker only 20 slides à 20 seconds to present his/her thoughts succinctly.

Johannes Dell, urban planner and partner of Albert Speer & Partner (AS&P), the renowned architect's office in Frankfurt, held the inauguration address for the first panel discussion in Shanghai focusing on "Challenges for City Logistics in Megacities". The urban planner has been working for AS&P in China since 2003 where he made successful proposals for instance for the regional development master plan Zhengzhou, a project encompassing an area of 1,800 square kilometers. In his view, urban planners try to make future life in megacities manageable along four key principles:

"The carbon footprint of the city of Tokyo alone is 1.5 times as high as that of the rest of Japan," he stated. This example shows that megacities are a miniature reflection of global problems. A first principle guiding planners of metropolises is therefore "polycentric, decentralized concentration". Put simply, it means that planners move away from downtown thinking in large cities and create several such districts instead or merge several smaller cities – so-called satellite cities – into one urban region. This principle applies both to megacities with over 10 million inhabitants and to middle-sized cities who, according to Dell, bear the brunt of urbanization. China alone has 50 of these middle-sized cities with over one million inhabitants.

"Downtown landscape" is the second key principle for the urban developer Dell. Landscaped areas bring recreation zones close to where people live and increase the quality of life. At the same time, the open spaces offer room for future infrastructure measures taken as a city develops. "Integrated planning" is another principle. It requires an ongoing feedback process ensuring that the development of new techniques and means of transportation is taken sufficiently into account as a city is developed.

An essential element, because "mobility" is not only the fourth principle but also the key ingredient in making a city both functional and livable. And not just for urban planner Dell. The panel experts concurred that the well-being of a city can hinge on its ability to cut down on individual traffic by providing efficient public transportation. Paul Graham, CEO of DHL Supply Chain Asia Pacific used a graphic example: "The average London traffic has recently been slower than during the time of horse-drawn carts."

And that is not all: the gridlock is exacerbated by a gradual death by asphyxiation. "Air quality in most megacities is far below the minimum levels requested by the United Nations for healthy life," Graham said. The manager believes that practical solutions are only possible if the problem is approached holistically in a process involving the local authorities, the citizens and the companies.

This type of approach, Graham said, has been chosen at the airport London Heathrow and in the city of Bristol where DHL operates Urban Consolidation Centers. Both centers consolidate inbound supply streams and deliver the individual goods to clients in a capacity and time optimized manner. They reduce the need for constant ad-hoc deliveries, preventing overload on existing infrastructure and reducing carbon emissions, too.

Petra Kiwitt, Executive Vice President of DHL Solutions & Innovations at Deutsche Post DHL explained that the use of innovative logistics solutions could sustainably improve the situation. If electric trucks were used more generally, this would create the chance for Deutsche Post DHL to deliver more frequently during night times. At the moment, the logistics company provides this night time delivery service only for a large coffee shop chain in Shanghai – and it uses conventional trucks for it. The DHL couriers have access to the individual shops and restock them with goods and inventories so that the store is ready for business when the employees arrive in the morning. "E-trucks would also solve the noise problem we still have with night time deliveries using trucks with conventional engines," said Kiwitt.

This and similarly innovative approaches born from out-of-the-box thinking are needed to meet the megacities' constantly increasing demands on logistics. And these are plentiful. Many megacities must cope with historically grown infrastructures – which create today's biggest challenges, DHL manager Graham explained. Most megacities don't have a clear concept of how to cope with the fact of growing individual traffic – and more often than not they have no idea of how to develop well-functioning alternatives by public transportation. Collective denial and the enjoyment of "individual congestion" are by no means helpful because the situation will get even worse. The United Nations expect that we will have 20 megacities globally in 2020 – including nine so-called meta-cities, i.e. conurbations with even more than 20 million inhabitants.

Drastic measures might be in order, said Graham and Dell who wouldn't shy away from giving up existing cities and relocating the population to new and thoroughly planned metropolises. They argue that many of these megalopolises are true juggernauts that grew to their size without any type of urban planning and keep sprawling – a major challenge for urban development. Prof. Dr. Yeung Yue-Man, Emeritus Professor of Geography at the Chinese University of Hong Kong and an expert on urban development concurred: "Megacities often sprout in developing and emerging countries that sometimes lack the means to deliberately develop urban concepts – or are simply not aware of the problem." Yet the professor showed that there are positive examples of how to deal with the situation, for instance Hong Kong: "No other megacity in the world has a public transportation system that is so well planned, efficient and affordable."

And according to the experts no other city works so sustainably on keeping this transportation network future-proof. These efforts lead Professor Yue-Man to believe that the merger of the cities in the so-called Pearl River Delta, i.e. in the area in the south of China formed by the estuary of the four tributaries to the Zhu Jiang River which includes cities like Guangzhou, Shenzhen, Macau or Hong Kong, can serve as a role model: "Going forward it will be possible to reach more or less every point in the urban region surrounding Hong Kong and Macau within one hour." To achieve this, the region will rely more heavily on high-velocity trains to complete the cities' own metropolitan networks.

Incidentally, this network is not only used by commuters but also for logistics purposes: DHL couriers in Hong Kong opt for the subway as a fast alternative for delivering on schedule. A clever move, says Jerry Hsu, President DHL Express Greater China, because velocity is ever more in demand: "People have very little patience with us. We are express – and so we need to deliver everything in express mode."

This is the kind of creativity Paul Graham is looking for when he urges people to jointly develop holistic solutions. It also includes adjusting existing concepts to new situations, the DHL manager explains: "Our Urban Consolidation Centers that consolidate the inbound streams of goods for all retailers in inner-city locations and make consolidated deliveries to merchants was developed for medium-sized European cities. There is no reason, however, why this concept shouldn't work in Asian metropolises if we simply operate several centers in several locations around town."

Professor Yue-Man is equally convinced that technological progress will support this development. He also acknowledged, however, that new technological options also create new requirements: "The Internet makes it unnecessary for people to leave the house and travel the world because we can simply get it home-delivered. The only question is: Who will end up delivering it?"

To meet expectations, new capabilities are required and must be developed not just by logistics firms in megacities. According to Jerry Hsu, the curricula of the universities and professional trainings must be extended accordingly. A view his employer has embraced: "Today, DHL is one of the leading career developing companies in China."

The second round of discussions held this day in Shanghai highlighted that the responsibility of a global player as a corporate citizen doesn't stop here.

Chapter 2: The weakness of policy makers and the responsibility of the corporate sector

Trevor Houser knows the difficulties of brokering political agreements on climate change. The Director of the Energy and Climate Practice at research consultancy Rhodium Group accompanied for instance the US government's special envoy for climate issues and thus experienced the negotiations during the climate summit in Copenhagen first hand. In his address opening up the second Delphi Dialog in Shanghai on "The Environmental Responsibility of Global Players", Houser explained why the UN climate negotiations failed and developed alternative strategies to combat global warming.

The general excitement about the possibility of designing a global environmental policy lead to excessive expectations during the climate summit held 2007 in Bali: the participants agreed to no less than creating – in the space of only three years – an organization for carbon emissions trading that would work similarly to the World Trade Organization. There is a major difficulty in climate protection, however, Houser stressed: none of the potential measures have a direct and immediate effect. In addition, all countries would have to make the same efforts even though they might be very differently affected by climate change. It turned out, Houser found, that solidarity among countries has its limits.

The Visiting Fellow at the Peterson Institute for International Economics in Washington illustrated by way of an example how much negotiations in Copenhagen were complicated by this state of affairs in 2010: "For the first time in the history of summit diplomacy, the political leaders of 28 – industrialized and emerging – countries closeted themselves and went through each and every point of the final memorandum. This type of editorial work was new for all of us." This may be the reason why the declaration now barely deserves to be called a binding, globally standardized approach. As a consequence, there is only one realistic way forward for Trevor Houser if climate protection is to be further advanced: "The private sector must be at the heart of the search for practicable solutions."

Thankfully, the global players have long since become aware that it is time to act. Frank Appel, CEO of Deutsche Post DHL, assured the audience: "Global warming is a fact. As a global leader in mail and

logistics services we can't wait for others to do something about it; we must take the initiative ourselves. We have a particular responsibility for the environment." And according to a study published recently by the World Bank's Carbon Disclosure Project, German-based Deutsche Post DHL has been true to its word: it is the greenest logistics company of the world. This is anything but coincidence: sustainability has long become an integral part of the group's strategy.

The sustainability objectives of the group are not merely altruistic; they open up new business opportunities to the logistics company, too. Kelvin Leung, CEO of DHL Global Forwarding North Asia Pacific, explained: "Some of our clients have chosen us specifically because we do more for the environment." This confirms a trend also identified in the report "Delivering Tomorrow: Towards Sustainable Logistics" presented by Deutsche Post DHL in Shanghai. 57 percent of the corporate customers polled wanted to give preference to a logistics provider with "green" transport solutions over the next ten years.

Appel explained that the increasing awareness of sustainability issues also substantially changes the business. "The fastest growing product-line we have is our carbon-neutral GoGreen products, which is shipping five times more than the year before," the CEO reported. "That is encouraging, because it shows that customers are willing to pay for sustainable logistics."

For Trevor Hauser, the growing environmental awareness of large companies is mainly the result of a well-functioning market economy principle of offer and demand: "Clients become increasingly aware of their market power and use it to influence the environmental and energy policy of companies to a larger extent than before." The so-called LOHAS (Lifestyle of Health and Sustainability) are a prominent example – relatively wealthy and well educated consumers who act as thought leaders in campaigns for or against certain products, forcing companies to act. Even today, the carbon footprint of a company plays an important role.

For this reason, logistics firms are under particular pressure to act, Houser said. Whilst the industry is responsible for some 13 percent of global carbon emissions logistics firms can also provide clients with information on the ecological footprint of a product, helping them to make environmentally aware decisions. It is not yet possible to determine the carbon footprint of each individual delivery, but the GoGreen services of Deutsche Post DHL are a big step forward in that direction, Frank Appel said, because the group neutralizes the carbon emissions of these products by investing in climate projects. In 2009 alone, the group thus compensated for some 38,500 tonnes of carbon emissions, the equivalent of the annual emissions of approximately 17,500 medium-sized passenger cars.

For Frank Appel, this also falls under the responsibility of global players: "People want to do something for the environment. We as managers must ensure that our companies offer products

helping them in their effort." Appel thus developed a vision of the world's major companies united to beat climate change, also engaging their workforces to make a change in their private lives. Not as insignificant an effort as it may seem: Deutsche Post DHL, for instance, employs almost 500,000 people globally.

A concerted approach across the logistics sector is also requested by the clients. Some 63 percent of the corporate clients polled by Deutsche Post DHL in June 2010 believe that we will see more cooperative approaches to protect the environment going forward. Robert de Souza, Director of the Logistics Institute in Singapore even goes one step further: not only competitors need to share their ideas to improve the overall impact of business on climate change. Thinking forward, he envisions a greater coalition of industry, government and academia to reach really sustainable solutions, Souza said.

The scientists and panel experts agreed that all these solutions for combating climate change come at a cost – with the different output levels and development stages of the economies posing an as yet unsolved problem. Carbon taxes or oil price hikes for instance are not only unfair but could stall economic development for those who need it most: the developing countries. At the same time, measures must be taken exactly in these countries, Trevor Houser said: "95 percent of future growth in carbon emissions will be generated in the emerging world. And measures reducing carbon emissions initially lead to economic disadvantages." The emerging countries are by no means less interested in reducing climate threats, but they have fewer options to reduce emissions because they often lack economic alternatives.

In reality, the latest research of Deutsche Post DHL has shown that emerging markets are substantially more aware of the problem than the industrialized countries, Frank Appel said: "Surprisingly, our survey found that approximately 70 percent of the end customers in Asia consider climate change the biggest global challenge. The awareness of the importance of fighting climate change is strongest in Asia." Yet only substantially less than 50 percent of the end clients polled across the globe were willing to pay more for products transported in a more environmentally friendly manner.

For Kelvin Leung, it is not at all clear whether emissions will eventually be allocated to their source: "The manufacturer, the shipping company or the consumer: Who is responsible for the carbon that is emitted for a specific product? And who is to pay for it?" the manager asked, putting a finger to one of the key issues. For Leung the fact that there is yet no answer to this question shows that carbon accounting and carbon allocation still need to be substantially professionalized.

But even a strict allocation of emissions needn't be a disadvantage for companies and investors, the Deutsche Post DHL CEO said. "I see global warming not only as a threat but as a business challenge," Frank Appel stated. "We can turn it around to a business advantage – let's make green products and reduce our footprint – and become an even more attractive investment in the process."

By communicating its own climate targets and putting products like GoGreen into the market Deutsche Post DHL is pushing its competitors to follow, Appel said and added: "In addition, the climate targets also have a very tangible advantage: if we are smarter in using our fuel, we save a lot of cost. It's a win-win situation for the environment – and for us."

Epilogue: a step ahead on the "road of solutions"

Overcrowded cities, major environmental issues and on top of it all an ineffectual political process that fails to meet these challenges – a plethora of issues to most of which the Delphi Dialog didn't provide answers. Still, the participants in the dialog were reasonably optimistic and proffered innovative approaches that gave rise to a more hopeful outlook. They were thus very much in line with the general tone of the Expo, where a stroll through the Urban Pavilion quickly leads visitors to conclude that they travelled not only on the "road of crisis" but also on the "road of solutions". The message of the Exp 2010 is clear: we can save the future, but we had better start immediately.