College of Europe
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DEPARTMENT OF **EU INTERNATIONAL RELATIONS** AND **DIPLOMACY STUDIES**

InBev-Baillet Latour Chair of
European Union-China Relations

Issue 3, 2012

EU-China Observer

www.coleurope.eu

InBev-Baillet Latour Chair of European Union-China Relations

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HOW TO PERCEIVE CHINESE FDI IN THE EU

Jing Men*

Chinese Foreign Direct Investment (FDI) flows to the EU are central to current debates over EU-China relations. Observers have pointed out that automobile manufacturers, construction firms and the Chinese development bank are actively "buying up Europe."[1] News of Chinese investment in Europe is so widely discussed[2] that one cannot help but think that China is a huge investor in the EU. However, analysing the figures produces a surprising result. In actual fact, Chinese FDI into the EU is only marginal, "representing less than 1 % of total foreign direct investment, even though it is growing fast."[3]

The question is: why do Chinese FDI flows to the EU attract a disproportionate level of attention, relative to their real levels? In her European Parliamentary Briefing Paper, Prof. Meunier argues that coming from a developing country and a Communist regime, China's investment into developed and democratic EU member states constitutes a novel challenge to the EU. Moreover, if European countries develop a dependency on Chinese investment, it will "provide China with political and security leverage."[4]

Such concern is quite widespread among Europeans. The ideological, political, economic, social and cultural differences between China and the EU lead to a huge gap in mutual understanding. Unfortunately, years of diplomatic relations between the two sides have not noticeably helped narrow the gap. Moreover, due to these differences and lack of mutual understanding, China's rapid re-emergence in the world brings fear and anxiety to some Europeans. While there used to be a distance between China and Europe geographically, Chinese FDI flows into the EU make China within arms' length of Europe, which further strengthens such wariness.

How should we perceive Chinese FDI in the EU? Generally speaking, will it be good or bad for the European economy? Before answering these questions, we should examine why Chinese FDI comes to Europe, which

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[1] F. Godemen and J. Parello-Plesner, "Policy Brief: The Scramble for Europe", London, European Council on Foreign Relations, 2011.

[2] For example, "Volvo bought by China's Geely", *BBC News*, 28 March 2010; "China Buys Into Greece as Gateway to Europe", *MetalMiner*, 8 July 2010; "Lalande-de-Pomerol estate bought by state-owned Chinese company", *Decanter.com*, 31 January 2011; "Wanhua takes full control of Borsodchem", *Financial Times*, 1 February 2011; and "Chinese State Grid bought Portuguese gas and electricity distributor REN", *The China Times*, 3 Feb 2012.

[3] J. Farnell, "Time for A Really Check on EU-China Economic Relations," *Europe's World*, summer 2012, retrieved 28 June 2012, http://www.europesworld.org/NewEnglish/Home_old/Article/tabid/191/ArticleType/articleview/ArticleID/22003/language/en-US/Default.aspx.

[4] S. Meunier, "Political Impact of Chinese Foreign Direct Investment in the European Union on Transatlantic Relations", *European Parliament Briefing Paper*, 4 May 2012, pp. 5-6.

entities are investing and what the major problems of Chinese FDI in the EU are. This paper argues that Chinese FDI is both a challenge and an opportunity, which will help deepen the mutual learning process between the EU and China.

Why does Chinese FDI come to the EU?

Compared with European investment to China, Chinese investment to the EU is relatively new. At the end of the 1970s, when China had just adopted the reform and open-door policy, there was shortage of both domestic savings and foreign currency reserves. One of the purposes of opening China to the outside world was to attract foreign direct investment to stimulate Chinese economic growth. Since then, investment from Europe has remained an important source of FDI for China. While the EU had high levels of capital and advanced technology, China used to be strong in terms of offering low labour costs. It seems natural that investment thus flowed from the developed European countries to a developing China.

In the 21st century, the situation has gradually been changing. Although the EU still possesses a technological advantage, labour costs in China have been rising. In the meantime, the euro saga has engendered a capital crisis and many member states also face a deep sovereign debt crisis. In contrast, the shortages of domestic savings and foreign currency reserves in China have been replaced by huge surpluses. Since 2000, Beijing has encouraged Chinese enterprises to "go global" by relaxing strict controls over outward FDI. More and more Chinese state owned enterprises (SOEs) and private companies go abroad, first to Asia, Africa and Latin America and then to the United States and the European Union.

The Chinese FDI path seems to suggest that the first targeted countries are developing countries, followed by developed countries. Chinese FDI into developing countries served as a preparatory step for Chinese investors looking to branch out to developed markets. Compared with many other developing countries, China is rich in capital and quite competitive in terms of investment. However, due to various problems in the wider developing world, from Africa to Latin America, risks have been rising for Chinese investors. As a result of "the development and transformation of [the] Chinese economy", Chinese entrepreneurs are becoming increasingly interested in the developed world.[5]

Among the developed countries, the United States used to be the number one choice for Chinese investors. However, the failed attempt by the Chinese National Offshore Oil Corporation (CNOOC) to acquire the Unocal Oil Company, together with Huawei's problems with the Committee on Foreign Investment in the United States (CFIUS), have frustrated not only the executives of the two above-mentioned companies but also many other Chinese businessmen intending to invest abroad. They believe that "the

[5] T. Wang, "Understand rather than Misunderstand the Chinese FDI", a speech given at the briefing on" Destination Europe: Harnessing the Benefits of Chinese FDI", organised by Bertelsmann Foundation, Brussels, 21 June 2012.

United States is unwelcoming of Chinese investment."[6] On the other side of the Atlantic Ocean, the weakened euro has made it relatively cheaper for China to invest in the EU. In a way, Europe's crisis is China's opportunity. A survey of 3,000 Chinese firms revealed that Chinese investors "identified positive effects associated with the crisis, such as weakened overseas competitors and the availability of acquisition targets at more attractive prices."[7] As a result of the imposition of tighter national security reviews on Chinese firms by the United States, as well as the increasing attractiveness of the EU, "in relative terms it would appear that Europe is in the fast lane – especially after 2011's stellar $10 billion inflows."[8]

Chinese government and Chinese enterprises

The Europeans, like the Americans, are wary about China's state capitalism and its large number of aggressive SOEs abroad. Among all the deals conducted in the EU-27 between 2000 and 2011 by Chinese investors, 72 percent of the total value was from state controlled investment. Although up until now no deal between the EU member states and China has been blocked because of national security considerations, such eventualities are being discussed.

Why are there so many SOEs in China? And why are Chinese SOEs so active in outward investment? To answer these questions, we need to have a look at the history of China's reform. In the pre-reform era, the private sector did not exist in China. All Chinese enterprises were public. Since the 1980s, the private sector has had the opportunity to gradually develop, in a complementary way to the public sector. In 1999, the Chinese Constitution was amended to officially recognise the legitimacy of the private sector. Private enterprises have flourished in the reform era and have become an indispensable part of China's economy, as well as important contributors to the growth of Chinese GDP. In the meantime, SOEs are being restructured to become more competitive and more responsive to market forces. As SOEs usually enjoy high capital levels and favourable government policy, the private enterprises usually "suffer from a widespread lack of core technology, innovative ability, and management talent."[9]

As SOEs are state-owned, can we consider SOEs as being part of the Chinese government? In other words, are all SOEs under strict control of the Chinese government, and when the deals in the EU are made by Chinese SOEs, are they both business and political deals as the Chinese government backs them? Dr. Wang from the China Centre for International Economic Exchanges (CCIEE) argues that it is a general misunderstanding that Chinese

[6] D. M. Marchick, "Fostering Greater Chinese Investment in the United States", *Policy Innovation Memorandum*, No. 13, 10 February 2012, retrieved 20 June 2012, http://www.cfr.org/china/fostering-greater-chinese-investment-united-states/p27310
[7] L. Cernat & K. Parplies, "Chinese Foreign Direct Investment: What's Happening Behind the Headlines", *Vox*, 16 July 2010, retrieved 29 June 2012, http://www.voxeu.org/article/chinese-foreign-direct-investment-whats-happening-behind-headlines
[8] T. Hanemann & D. H. Rosen, *China Invests in Europe: Patterns, Impacts and Policy Implications*, New York, The Rhodium Group, 2012, p. 7.
[9] T. Wang, op. cit.

SOEs are agents of the Chinese government. In his opinion, the decisions made by Chinese SOEs, in terms of where to invest or which sector to invest in, are not controlled by the Chinese government. Moreover, the government does not have the authority to interfere.[10] A recent study published jointly by the Canadian Council of Chief Executives (CCCE) and the Canadian International Council (CIC) also challenged "the widespread perception that Chinese SOEs are primarily motivated to serve Chinese national interests and foreign policy" and stated that "[m]ultinational corporations owned by the Chinese government typically operate not as puppets of the state or the Chinese Communist Party but like any other commercial firm."[11] Yet, an analysis made for the U.S.-China Economic and Security Review Commission in 2011 counters this argument, stating very clearly that Chinese SOEs "respond both to economic incentives and to state policies."[12] Furthermore, "as long as SOE executives are beholden to the CCP, they will have an incentive to choose state goals over financial goals when the two conflict."[13]

The relationship between the Chinese government and Chinese SOEs seems to be rather complicated. As long as Chinese enterprises are owned by the state, it is difficult to completely fend off the influence from the Chinese government. However, the degree to which the government can have a say in the policy making of the SOEs must be evaluated case by case in order to avoid the risk of generalisation.

Problems of Chinese FDI in the EU

As mentioned earlier, the rapid increase of Chinese FDI to the EU is a relatively new phenomenon. Annual inflows from China to the EU "tripled from 2006 to 2009, and tripled again by 2011 to $10 billion (€7.4 billion) for the year. The number of deals with a value of more than $1 million doubled from less than 50 to almost 100 in 2010 and 2011."[14] Although Chinese FDI to the EU is extremely dynamic, there are still problems.

The most noticeable problem is that the Chinese domestic investment environment is totally different from that of the EU. As an authoritarian state, China does not act in the same way as the EU member states with regards to promoting democracy, human rights and civil society movements. These differences are highlighted by the fact that some Chinese managers have failed to respect labour policies in the EU. In June 2010, the Chinese shipping company, China Ocean Shipping Co. (Cosco), took full control of the container terminals of Piraeus, the largest port of Greece. Based on the contract signed, the Chinese would lease the terminals for 35 years. Only a few months later, violations of labour laws by Chinese employers were

[10] T. Wang, op. cit.
[11] "Chinese state-owned enterprises are motivated by profit, not national interest, study concludes", *Canadian Council of Chief Executives*, 21 February 2012, retrieved 20 June 2012, http://www.ceocouncil.ca/news-item/chinese-state-owned-enterprises-are-motivated-by-profit-not-national-interest-study-concludes
[12] A. Szamosszegi & C. Kyle, *An Analysis of State-owned Enterprises and State Capitalism in China*, Washington D.C., U.S.-China Economic and Security Review Commission, 26 October 2011, p. 91.
[13] Ibid., p. 92.
[14] T. Hanemann & D. H. Rosen, op. cit., p. 3.

reported. According to Piraeus' local department of labour inspection, four separate labour violations were noted in August and October 2010. The local dockworkers union remarked that Cosco is importing the Chinese labour model to Greece. As the Chinese argue that "by going global, we are also transferring our culture to the rest of the world", the Europeans are becoming increasingly fearful that their rule of law will be threatened by the Chinese model.[15]

Another noted problem is that the Chinese lack knowledge and expertise of local political, economic, financial, social, cultural and environmental situations. A notorious example is the China Overseas Engineering Group (COVEC)'s failure to fulfil the contract signed with the Polish government. The Chinese were so eager to win the tender that they did not spend enough time studying the targeted project or all related issues. In order to win the contract to build a highway between Warsaw and the German border, COVEC offered an extremely low bid, coming in at less than 50 per cent of the US$1bn budgeted by the Polish government. However, it quickly ran into financial difficulties, discovering that there was no way to complete the construction on the agreed price.[16] The construction work was finally stopped in May 2012 after COVEC incurred heavy losses and failed to pay its Polish subcontractors. Insiders have revealed that "COVEC lacks overseas management and financial skills, and has neglected to maintain supervisory and management records."[17]

The two cases typify the problems of Chinese FDI in the EU. Faced with a completely new environment, Chinese investors need to be more respectful and more cautious. Their business activities may bring capital to the host countries and create jobs in the short run but if Chinese investors cannot manage to develop their projects in a sustainable way, both their investments and their relationships with local business and society actors will be affected. Furthermore, because of this widespread impact, it will most likely be left to the political level to address these difficulties. Many European leaders are already anxious to know whether or not the Chinese model will be exported to Europe as FDI increases and the case of Piraeus sets a bad example. It reminds Europe's politicians of China's dubious human rights and social standards records and triggers doubt as to whether or not Chinese FDI will actually benefit the EU.

A learning process

As there has been a recent surge in Chinese FDI to the EU, the general impact of such investment on the local economy is not yet discernible. In the long

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[15] L. Lim, "In Greek Port, Storm Brews Over Chinese-Run Labor", *NPR*, 8 June 2011, retrieved 9 June 2012, http://www.npr.org/2011/06/08/137035251/in-greek-port-storm-brews-over-chinese-run-labor.

[16] J. Cienski, "China Group Sees Collapse of Poland Ambitions", *Financial Times*, 14 June 2011, retrieved 21 June 2012, http://www.ft.com/intl/cms/s/0/d17dda5a-96b7-11e0-baca-00144feab49a.html#axzz1zfRXuXyy.

[17] "Kicked off: COVEC Fails to Build Poland Highway before Euro 2012", *Want China Times*, 14 June 2012, retrieved 28 June 2012, http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1102&MainCatID=11&id=20120614000016.

run, whether Chinese FDI will be positive or negative to host countries will depend on a range of factors, including Chinese enterprises' investment policies; local policy; the relationship between Chinese investors and local governments, enterprises and society; the managerial capability of Chinese investors together with their knowledge and expertise of local laws, regulations, cultures, languages and politics, and, of course, the role of local media actors.

Chinese entrepreneurs will undoubtedly have a great deal to learn, not only about the financial and economic situation of targeted enterprises but also about local rules, cultures and customs. As Chinese investors "go global", they will be confronted with new challenges that they have not encountered inside China and will thus need to adapt to the external environment. As a matter of fact, since China opened to the outside world, the learning process has already started. For the Chinese government, it is a learning process of how to integrate into the international community. For the Chinese people, China's opening-up gives them an opportunity to get into contact with other peoples and cultures, to learn about new norms and rules.

Alongside this, host countries will be undergoing their own learning process about Chinese culture. While adapting to local conditions, the Chinese will attract attention and will subsequently initiate a dual learning process. Such a process can be mutually beneficial, if both sides are sincere and treat each other as equals.

Currently, twenty-six member states have bilateral investment treaties with China, Ireland being the only exception. With the introduction of the Treaty of Lisbon, the EU now has exclusive competence over FDI. Policy coherence on Chinese FDI in the EU will only be guaranteed if a new investment agreement can be reached between the EU and China. There is no timetable as to when negotiations for such an agreement will start, let alone any vague idea of when it will be concluded. Handling Chinese FDI in the EU is neither easy nor simple. This is true for both Chinese investors and for their European hosts. How to seize such an opportunity and deal successfully with the challenges it brings is something that will not only involve policy makers. The European society will also have to have its say.

THE EU'S ENGAGEMENT WITH CHINA ON CLIMATE CHANGE: LESSONS FROM THE EU-CHINA PARTNERSHIP ON CLIMATE CHANGE

Diarmuid Torney*

Since 2005, the European Union and China have sought to develop dialogue and cooperation in the area of climate change policy. This has taken place primarily within the framework of the EU-China Partnership on Climate Change, agreed at the 2005 EU-China Summit. Within this framework, both sides have developed institutionalised dialogue as well as cooperation in specific areas. From a European perspective, the aim of developing this engagement was to facilitate and support the development of domestic climate change policies in China, and to persuade the Chinese government to adopt emissions targets as part of a global climate change agreement for the period beyond 2012, when the first phase of the Kyoto Protocol expires. However, these outreach activities contributed relatively little to the EU's ability to shape the international climate negotiations in accordance with European goals. Nowhere was this failure more evident than at the Copenhagen climate change conference in December 2009.

This article analyses the challenges facing the EU in its relations with China on climate change. It focuses in particular on institutional factors which have inhibited the EU's ability to manage effectively its bilateral outreach activities with key third countries on climate change. The reason for doing so is two-fold. First, the article highlights particular shortcomings of the EU's external "climate diplomacy" in order to suggest how these difficulties might be addressed. Second, addressing these shortcomings on the European side holds the potential to improve the overall functioning of the EU-China relationship for the mutual benefit of both sides.

EU-China Cooperation on Climate Change

EU-China relations on climate change have grown in the context of the broader development in EU external relations on climate change from 2005 onwards, in which the EU established institutionalised dialogue and cooperation with a range of third countries on climate change.[1] This outreach formed part of the EU's strategy of trying to gain support from other actors for ambitious domestic climate change policies and a post-2012 climate change regime. It also built upon the progressive deepening of the broader EU-China relationship in the preceding years, which had culminated in the establishment of an EU-China "strategic partnership" in 2003. The 2005 EU-

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[1] These include Australia, Brazil, Canada, India, Japan, Mexico, Russia, South Africa, and the United States.

China Summit agreed on a "Joint Declaration on Climate Change between China and the European Union", which launched the EU-China Partnership on Climate Change.[2] Under this Partnership, both sides committed to strengthening "dialogue on climate change policies and exchange views on key issues in the climate change negotiations", and "practical co-operation on the development, deployment and transfer of low carbon technology, to enhance energy efficiency and promote the low carbon economy."[3]

In the framework of the EU-China Partnership on Climate Change, senior officials from both sides meet annually, and a ministerial-level policy dialogue was established in 2010 between European Climate Commissioner Connie Hedegaard and Vice-Minister Xie Zhenhua, China's lead negotiator for climate change. The two sides have also initiated institutionalised dialogue in a number of related areas, including environmental policy, forests, energy, transport and, most recently, sustainable urbanisation. Alongside the development of these numerous mechanisms for policy dialogue, the EU and China have also launched cooperation projects in a range of areas related to climate change, including the so-called "Near-Zero Emissions Coal" project focused on carbon capture and storage and the "Europe-China Clean Energy Centre" in Beijing. Other areas for cooperation include the Clean Development Mechanism, capacity-building for policy development and most recently the development of emissions trading in China.

The development of cooperation on climate change with China could have provided the EU with the means by which to develop a deeper strategic understanding of Chinese preferences with respect to climate change policy, and the domestic politics and institutional actors underpinning those preferences. Such an understanding could help in the formation of EU strategies in the international negotiations. Moreover, with respect to bilateral cooperation it could provide a fuller picture of where, how, and importantly, why Chinese and European positions converge or diverge. This is particularly important for the EU's relations with China, since the opaque nature of the Chinese political system renders it particularly difficult to understand for outsiders.

However, the EU-China relationship has generally failed to deliver this kind of deeper understanding to European policymakers, which in turn has constrained the effectiveness of the EU's climate diplomacy. Part of the explanation for the limited impact of EU climate diplomacy lies in the declining relative power of the EU in world politics, a process that has been accelerated by the global financial crisis since 2008. It is also true, of course, that the EU often finds it difficult to "speak with one voice" at the international level. However, while these perspectives undoubtedly capture some of the issues facing the EU in the ongoing climate change negotiations, they miss an important part of the challenge facing the EU in this area, namely that the EU

[2] Commission of the European Communities, *EU and China Partnership on Climate Change*, MEMO/05/298, Brussels, 2 September 2005, retrieved 28 May 2012, http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/05/298.
[3] Specific areas identified for cooperation included: energy efficiency, energy conservation, and new and renewable energy; clean coal; methane recovery and use; hydrogen and fuel cells; and power generation and transmission.

needs to pay greater attention to the positions and underlying domestic politics of other major actors. Put simply, the recurrent focus on whether the EU succeeds in "speaking with one voice" in its interactions with the outside world neglects the issue of whether, to what extent, and how the EU "listens" to the interests and preferences of other countries. This has been a particularly prominent challenge in its external relations on climate change.

Institutional Challenges of EU Climate Diplomacy

One constraint the EU faces in trying to get more value out of its climate diplomacy is a lack of institutional resources. In practice, responsibility for managing the EU's engagement with China on climate change lies with the European Commission's Directorate General for Climate Action (DG Clima) in Brussels, and with the EU Delegation in Beijing. Following entry into force of the Lisbon Treaty, furthermore, the EU Delegation in Beijing has taken on the role of coordinating the activities of all EU embassies. This has generated an increased workload for the staff of the EU Delegation. However, the significant expectations placed on the EU Delegation staff by the new arrangements have not been matched with adequate institutional capacity. The EU Delegation in Beijing employs one counsellor dealing with environment and climate change; one half-time officer reporting to the Directorate General for Energy (DG Energy); and a small number of staff responsible for cooperation projects. In Brussels, DG Clima employs almost no staff with responsibility to manage or track its bilateral relationship.[4]

This level of staff is not sufficient in the post-Lisbon Treaty context if the EU expects to gain significant added-value from its engagement with China on climate change, whether that is measured in terms of deepening the institutional European understanding of the domestic political context of Chinese climate change policy, or in terms of facilitating and supporting the development of Chinese climate change policy. DG Clima appears to focus almost exclusively on domestic policymaking and the UN climate change negotiations. While these tasks are, of course, crucial and extremely complex, there appears to be little acknowledgement of the value that could be gained by devoting additional resources to sustained bilateral outreach with key third countries such as China.

A second, related problem is that the EU-China relationship on climate change is highly fragmented along two dimensions. First, it is fragmented between EU-level engagement with China and that of the Member States. In particular, the United Kingdom, Germany, and France have all developed substantial cooperation programmes with the Chinese government, though in the French case the relationship was hindered significantly by the political fallout from then French President Sarkozy's meeting with the Dalai Lama in 2008. Other active Member States in China in this area include Italy, the Netherlands, Sweden and Denmark. This is not necessarily a bad thing; indeed, there may be advantages to many diverse mechanisms of cooperation, provided that unnecessary duplication of effort is avoided.

[4] Interview with EU official, October 2010 and follow-up email correspondence, April 2012.

However, it is difficult even to assess whether and to what extent the totality of EU (Commission plus Member States) cooperation and dialogue with China on climate change is synergistic, since there seems to be no overall list of the totality of EU activities in China in this area.

As mentioned above, an institutionalized coordination mechanism exists in Beijing in the form of regular meetings of environment counsellors from both the Commission and EU Member States, who meet six to eight times per year. However, these coordination efforts appear to have brought limited benefits so far. Of course, it is unrealistic to expect that one of the perennial challenges of EU external relations could be fully overcome in this specific field. Member States are often loathe to share information with each other and with the Commission in third countries, particularly where specific national interests are at stake such as, in this case, the potential for new markets for European clean-energy firms. However, the situation is not helped by the fact that, in the post-Lisbon Treaty era, the institutional actor tasked with on-the-ground coordination – the EU Delegation – does not possess adequate resources to perform this task. A promising recent development was the establishment, in October 2011, of an "EU-China Low Carbon Economy Platform", run by the Commission-funded EU-China Trade Project, which brings together Commission and Member State representatives and projects to enhance coordination and efficiency, which is to meet quarterly. However, it is too early to judge the impact of this mechanism.

Third, the EU-China relationship is fragmented between policy areas. The EU and China have separate, ongoing dialogues at ministerial or senior official level on (i) climate change, (ii) energy, (iii) environment, (iv) forests, and most recently (v) sustainable urbanisation. This proliferation of policy dialogues is characteristic of the broader development of the EU-China relationship: the number of policy areas covered by EU-China dialogues grew from 17 in 2004 to over 50 by 2009.[5] Again, fragmentation of this kind is not in itself a problem. Indeed, developing cooperation and dialogue across a range of related but distinct policy fields opens the possibility for greater impact than through one single channel. Moreover, developing cooperation on energy or forest policy, for example, may succeed in making progress in areas considered less politically controversial than in the sometimes highly-charged field of international climate change policy. However, such fragmentation becomes a problem if it exceeds the resources and capacity of the institutional actors on the EU side which have been tasked with coordination and ensuring synergies and coherence.

The conduct of EU climate diplomacy is also inhibited by a broader constraint which stems from the division of labour between DG Clima and the European External Action Service (EEAS), the EU's new diplomatic service. DG Clima was created in February 2010 and brought together the climate-related functions of a number of existing DGs, including those of the old

[5] European External Action Service, *Information Note: Sectoral Cooperation between the EU and China*,Brussels, 2012, retrieved 28 May 2012, http://eeas.europa.eu/china/docs/sectoraldialogues_en.pdf.

Directorate General for External Relations (DG Relex).[6] There are clearly benefits to be gained from locating all Commission services relating to climate change in one Directorate General: for example, it may facilitate greater coherence between the internal and external aspects of climate change policy. However, there are also costs, principal among which are that integration between climate policy and other policy areas is likely to be more difficult if strong institutional boundaries coincide with divisions between policy areas. However, the transfer of institutional competence for international climate diplomacy out of what was then DG Relex has hindered the integration of climate change into the broader framework of EU external relations. Furthermore, it reinforces the tendency to view climate change as a distinct, technical area of policy-making which is the remit of sectoral specialists, rather than viewing it in broader strategic terms.

Recommendations

The principal recommendation arising from this analysis concerns the need to build the capacity of the EU institutions in key third countries to develop effective bilateral outreach. In the first instance, this means allocating more staff to work on climate change and related areas at EU Delegations, and also – though perhaps somewhat less urgently – more staff in Brussels to manage bilateral relations with third countries on climate change. This could yield the benefit of improved intra-EU coordination on-the-ground in third countries. It would be naïve to think that problems relating to coherence of EU action in third countries will be overcome fully in the foreseeable future. However, in the post-Lisbon Treaty era, on-the-ground coordination in third countries is the responsibility of the EU Delegation in question, and without adequate resources the issue of coherence cannot even begin to be addressed.

Second, there needs to be a reappraisal of the institutional division of labour between DG Clima and the EEAS. The current arrangement, institutionalised in early 2010, involved the consolidation of all functions relating to the international climate change negotiations in DG Clima. However, this promotes a view of international climate change politics as a technical, sectoral policy area, and thereby hinders the development of a more strategic approach that emphasises the interlinkages between climate policy and broader of foreign policy objectives. Achieving the integration of climate change policy with broader foreign policy objectives is not an easy task, but the current institutional arrangements do nothing to facilitate that process.

Developing effective engagement with China and other key countries on climate change should be a priority of EU external relations on climate change. The EU was credited with playing a key role in securing a successful outcome to the recent Durban climate change conference in November–

[6] Commission of the European Communities,, *Commission Creates Two New Directorates-General for Energy and Climate Action*, Press Release IP/10/164, Brussels, 17 February 2010, retrieved 28 May 2012, http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/164&format=HTML&aged=0&language=EN.

December 2011.[7] This, however, represents only the beginning of another long journey, with negotiations scheduled to be concluded by 2015 and a future agreement to enter into force in 2020. To be successful in influencing the outcome of these negotiations, the EU would benefit greatly from deepening its understanding of the preferences and domestic politics of key third countries. This will not happen unless the EU finds a way to manage better its currently underdeveloped bilateral engagements with China and other key states.

[7] This outcome included the launch of negotiations under a "Durban Platform for Enhanced Action", which is tasked with negotiating a "protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties". See Decision 1/CP.17, in United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on its Seventeenth Session, Held in Durban from 28 November to 11 December 2011*, FCCC/CP/2011/9/Add.1, Bonn, 15 March 2012, pp. 2-3, retrieved 28 May 2012, http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

HOW CAN CHINA MANAGE A MORE SUSTAINABLE URBANISATION?

Xuefeng Wang*

Currently, China is entering a stage of rapid urbanisation. According to the National Bureau of Statistics of China (NBSC), the urban population has increased by 499.39 million, from 191.40 million in 1980 to 690.79 million in 2011[1], which brought the urbanisation level to 50.27 percent. Moreover, a further growth of 300 million [2] or 530 million [3] was projected to be taking place in the next 20 years or so, marking the ever largest population movement in the history of mankind. Compared to urbanisation in developed countries, China is nevertheless facing more challenges posed by today's social, economic, and environmental conditions and globalisation. In this context, how China should orient its policy to manage a more sustainable urbanisation is currently the focus of debate. Through the analysis of the cause-effect relationships between production mode and urbanisation patterns in developed countries, this paper aims to examine the appropriateness of China's urbanisation policy to the current modes of production.

The Path of Urbanisation and its Determinants

There is general agreement in the literature that urbanisation in developed countries since the Industrial Revolution could be divided into four stages, namely, central urbanisation, sub-urbanisation, counter-urbanisation, and re-urbanisation.[4] Each stage has its distinctive features and relates to specific patterns of economic growth.[5] The agricultural revolution around the 18th century provided a precondition for industrialisation. In the early years of the industrial revolution, which itself was dominated by mining and manufacturing, productivity was limited because of relatively low technology and transportation possibilities. The mode of production was characterised by labour intensiveness and relied on natural power. These conditions limited the scale of factories and constrained the location choices. The areas close to natural resources that were essential for industrial products and easy to

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[1] National Bureau of Statistics of China, *The Total and Structural Change of China's Population in 2011* Beijing, National Bureau of Statistics of China, 2012a.

[2] United Nations, Department of Economic and Social Affairs/Population Division, *World Urbanisation Prospects: The 2009 Revision*, New York, United Nations, 2010.

[3] G. Wan, "2030: China's Urban Population Will Be over 1.2 Billion (in Chinese)", *International Economic Review*, no. 6, 2011, pp. 99-111.

[4] T. Champion, "Urbanisation, Suburbanisation, Counterurbanisation and Reurbanisation", in R. Paddison (eds.) *Handbook of Urban Studies* London, Thousand Oaks and New Delhi, SAGE Publication Ltd, 2001, pp. 143-161.
L. v. d. Berg, L. S. Burns and L. H. Klaasen, *Spatial Cycles,* Aldershot, Gower, 1987.

[5] P. Bairoch & C. Braider, *Cities and Economic Development: From the Dawn of History to the Present,* London, Mansell, 1988.

access were favoured. These areas were developed to become industrial centres and towns that were spread and scattered more or less evenly throughout the country.

The invention of steam power, which replaced natural power, improved the productivity of manufacturing significantly. This also made it possible for factories to grow.[6] The development of railway systems had helped the reduction of transportation costs, which allowed factories to take advantages of so-called "external economies of scale".[7] Cities were consequently enlarged and the trend was pushed further by the Fordist mode of production and the use of private cars for commuting. This process led to urban concentration and, in turn, the suburbanisation, or metropolitanisation,[8] around large cities.

The first oil crisis in1973 triggered the so called deindustrialisation,[9] which saw the traditional labour intensive manufacturing sector replaced by the more advanced technologies, capital intensive industries and the value added services sector in many developed countries. On the one hand this change offered opportunities in terms of high wage jobs. On the other, it resulted in reduced demand for labour in the form of higher unemployment. This, consequently, led to the increase of disparities in income and wealth. Many of the well-paid jobs have been occupied by white-collar workers, who would rather commute in from the suburbs or exsuburbs to escape from the poor social and environmental conditions in the inner city.[10] This caused further urban expansion out to the suburban or exsuburban areas.[11] Looking back at the trajectory, the way in which developed countries urbanised has been found unsustainable, both socially and environmentally.[12]

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[6] P. Bairoch & G. Goertz, "Factors of Urbanisation in the Nineteenth Century Developed Countries: A Descriptive and Econometric Analysis", *Urban Studies,* vol. 23, no. 3, 1986, pp. 285-305.

[7] J. Beall & S. Fox, *Cities and Development,* Milton Park, Abingdon, Oxon, New York, Routledge, 2009.

[8] A. J. Scott, *Metropolis: From the Division of Labor to Urban Form*, Berkeley/Los Angeles/London, Univ of California Press, 1988, 1st edn.
T. J. Baerwald, "The Emergence of a New 'Downtown'", *Geographical review,* 1978, pp. 308-318.

[9] K. Cowling, "The Internationalization of Production and Deindustrialization", in A. Amin and J. B. Goddard (eds.), *Technological Change, Industrial Restructuring and Regional Development,* London, Allen & Unwin, 1986.
A. Cairncross, "What Is Deindustrialisation?", in F. Blackaby (eds.), *Deindustrialisation,* London, Heinemann, 1982, pp. 5-17.
Y. Kogane, "Economic Growth before and after the Oil Crisis and the Possibility of Deindustrialization", *The Global Economy: Today, Tomorrow and the Transition,* 1985, pp. 267-295.

[10] W. F. Lever, "Deindustrialisation and the Reality of the Post-Industrial City", *Urban Studies,* vol. 28, no. 6, 1991, pp. 983-999.

[11] T. J. Baerwald, op.cit.

[12] S. M. Wheeler, *Planning for Sustainability: Creating for Liveable, Equitable, and Ecological Communities,* London and New York, Routledge, 2004.
G. Pivo, "Toward Sustainable Urbanization on Mainstreet Cascadia", *Cities,* vol. 13, no. 5, 1996, pp. 339-354.
F. J. Carrillo, "Capital Cities: A Taxonomy of Capital Accounts for Knowledge Cities", *Journal of Knowledge Management,* vol. 8, no. 5, 2004, pp. 28-46.

The emergence of a globalised knowledge economy/society has once again changed the mode of production.[13] Innovation has now been seen as the most important way to secure competitive advantages in the global market.[14] The new economy has been given a name – "footloose economy" – which saw the rise of the creative class[15] which required much higher standards of working and living. However, this new economy is also responsible for the increase in social exclusion and inequality. Since the late 1990s a new understanding of development has been on the rise, which emphasises balanced social, economic, cultural, territorial and environmental improvement[16] over urban development. A vision of social inclusion and sustainable development[17] has come to the centre of development policy. The spatial rescaling also involved a change in the definition of urbanisation, which may be represented by city-region.[18]

The spatial scale of city-region can be defined by housing and labour market, or by economic linkages, services out-reaching and administrative boundaries.[19] At the core lies the concept of "functional economic region". Differing from the preceding stages of urbanisation, the development of the city-region is no longer involved with massive migration but rather with redefining the space and services provision based on the refined concept of development. The development of a city-region can help with social inclusion and can improve the quality of life for the society as a whole.[20] Rodriguez-Pose summarises the advantages of a city-region over other patterns of urban development as being:

- the motors of economic activity in a globalised world;
- the most adequate geographical units for the experimentation with and implementation of new modes of economic governance; and more fundamentally,

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[13] Organisation for Economic Cooperation and Development, *The Knowledge-Based Economy,* Paris, Organisation for Economic Cooperation and Development, 1996, pp. 1-46.
United Nations Educational Scientific and Cultural Organisation (UNESCO), *The Knowledge Society,* Oxford, Blackwell Pub./UNESCO, 2002.
[14] C. Landry & F. Bianchini, *The Creative City,* London, Demos, 1995.
[15] R. Florida, *The Rise of the Creative Class,* New York, Basic Books, 2002.
[16] K. C. Laszlo and A. Laszlo, "Evolving Knowledge for Development: The Role of Knowledge Management in a Changing World", *Journal of Knowledge Management,* vol. 6, no. 4, 2002, pp. 400-412.
J. Beall & S. Fox, op.cit.
[17] Organisation for Economic Cooperation and Development, *Trends in Urbanisation and Urban Policies in OECD Countries: What Lessons for China?,* Paris, Organisation for Economic Co-operation and Development, 2009.
Commission of the European Communities, Expert Group on the Urban, *European Sustainable Cities: Report,* Luxembourg, Office for Official Publications of the European Communities, 1998.
[18] M. Coombes, "Defining Locality Boundaries with Synthetic Data", *Environment and Planning A,* vol. 32, no. 8, 2000, pp. 1499-1518.
A. J. Scott, "Globalization and the Rise of City-Regions", *European Planning Studies,* vol. 9, no. 7, 2001, pp. 813 - 826.
[19] B. Robson, R. Barr, K. Lymperopoulou, et al., *A Framework for City-Regions Working Paper 1: Mapping City-Regions,* Newcastle, Centre for Urban and Regional Development Studies, 2006.
[20] X. Wang, "Evolvement of Urbanisation Patterns in Developed Countries and Its Application to China (in Chinese)", *Areal Research and Development,* vol. 30, no. 4, 2011, pp. 54-61.

- the ideal scale for public policy intervention.[21]

The above analysis suggests that a specific pattern of urbanisation is determined by the dominant mode of production at that time. Under the globalised knowledge economy, the city-region appears to be a more sustainable pattern of urban development. The application of the city-region as an approach to development in recently urbanised countries has resulted in a changed production mode and the patterns of urbanisation in developed countries are therefore not duplicable. Moreover, from a spatial perspective, the path of urbanisation in developed countries may be described as a "backwards and forwards" movement of settlements (from country to urban proper and then back to the country). This has resulted in an immeasurable waste of already limited resources, has damaged the environment and should, therefore, be avoided. Finally, the city-region may provide a conceptual starting point for managing a more sustainable form of urbanisation.

China's approaches to urbanisation

During the first three decades of socialist China, the country's economic policies changed from promoting urban-based industrialisation in the 1950s, to promoting national defence centred industrial development in mountainous areas located in the inland region in the 1960s and 1970s. Coinciding with this change, the country has moved from encouraging to deterring urbanisation. Nevertheless, in the earlier years of the economic reform, township and village enterprises (TVEs) rapidly emerged, to supplement commodity needs. Numerous industrial towns were established in the areas where natural resources were obtainable. Large-scale farmers became seasonal factory workers in the TVEs. By 1990, the number of small cities had more than trebled whilst the number of towns increased six fold compared to that of 1978. The urban population also surged from 172.45 million in 1978 to 301.95 million in 1990, bringing the urbanisation level to 26.4 percent.[22] This pattern is pretty much similar to the UK at its first stage of urbanisation.

From the early 1990s TVEs have been facing increasing difficulties both in terms of environmental regulations and production technologies. This has resulted in their relative decline and urban-based industries have once again taken the lead in terms of national economic growth.[23] As a result, medium to large scale cities have been growing faster than smaller ones. At the same time, regional competition over the establishment of economic and

[21] A. Rodriguez-Pose, "Are City-Regions the Answer? ", in J. Tomaney (eds.) *The Future of Regional Policy*, London, Regional Studies Association and the Smith Institute, 2009, pp. 50-59.
[22] G. C. S. Lin, "The Growth and Structural Change of Chinese Cities: A Contextual and Geographic Analysis", *Cities,* vol. 19, no. 5, 2002, pp. 299-316.
National Bureau of Statistics of China, *The Compilation of Statistical Data of P R China over the 50 Years,* Beijing, NBSC Press, 1999.
[23] S. Liu, "China's Economic Growth Cycles over the Past 60 Years and the Current New Cycle", in B. Jin & G. Li (eds.) *China's Development Pattern: Exploration of Chinese Economists,* Beijing, Economic Science Press, 2011, pp. 3-12.

technological development zones has radically enlarged the size of cities, suggesting that China's urbanisation has reached the second stage – suburbanisation. However, as noted by Yao et al, the spatial expansion of urban built up areas was much quicker than urban population growth.[24]

China's economic success since the late 1990s may be attributed to the emerging globalised knowledge economy. Led by multinational companies (MNCs) in developed countries, global production networks have given China the chance to compete in the global market for labour intensive and cost sensitive products, with its competitive advantages in terms of cheap labour. China has been able to entice many MNCs to move their production to the country. Motivated by national policy incentives, most of these foreign investments were lured to coastal areas. These areas therefore became quickly urbanised and expanded spatially to become metropolitan regions. The economic contributions of these regions to national GDP growth have been higher than other regions. For this reason, the Twelfth Five-Year Economic and Social Development Plan has prioritised the development of metropolises and/or urban clusters as its primary objective of urbanisation.

The process and patterns of China's urbanisation seem to follow in the steps of developed countries but are taking place in a very short period (less than thirty years) and are taking place on a far larger scale. As was the case in other countries, China's urbanisation is not free from problems; instead, Chinese cities are facing eight kinds of problems, namely, social exclusion; rocketing house prices; traffic congestion; lack of elder care provision; urban poverty; short education capacity; under provision of health services and environmental pollution.[25] Studies into these issues found that the problems are getting worse and hence they have become the major political and social concerns in recent years.

Compared to developed countries, China's urbanisation faces totally different economic, social, environmental, and global conditions. This means urbanisation in China has to face more complex challenges than that of developed countries. Given the vast scale of territory and significant regional disparity, China is a country where knowledge-based industries, Fordist manufacturing industries, semi-mechanical industries, modern agriculture, and traditional agriculture co-exist simultaneously. The combination of these distinguished modes of production and the relative scarcity of resources suggests that China should avoid repeating the trajectory of urbanisation patterns in developed countries. However, it seems that China has unfortunately been repeating the mistakes made by both developed and developing countries during their processes of urbanisation.

Conclusion

Being a late urbanised country, China's choice over urbanisation patterns is not only constrained by the complexity of production modes under the

[24] S. Yao, D. Lu, C. Wang, et al., "A Need for Systematic and Scientific Thought for China's Urbanisation (in Chinese)", *Geographical Research,* vol. 30, no. 11, 2011, pp. 1947-1956.
[25] China Academy of Social Sciences, *China Urban Development Report 2011,* Beijing, China Academy of Social Sciences, 2011.

globalised knowledge economy, but also challenged by its unitary institutional settings, notably the Hukou system and the attached entitlement of access to the welfare system. The Hukou system is seen as the key cause for the increase in social exclusion and inequality. 158.63 million out of the 690.79 million population who were statistically defined as urbanites in 2011[26] were actually temporary rural-urban migrants who were not entitled to access most of the welfare benefits available for permanent urban residents. Nor did they have dwellings in urban areas. This brought the true urbanisation level down to less than 40 percent. Drawing on the discussion in this paper, this may nevertheless give China a chance to plan for an urbanisation that follows the city-region approach, which would avoid moving hundreds of millions of people from rural to urban and then moving them back at some point in the future, as was the case in the majority of today's developed countries. If China could manage to do this, it would avoid the immeasurable waste of resources and save the environment, or even the planet.

[26] National Bureau of Statistics of China, *National Survey on Rural Migration Workers* Beijing, National Bureau of Statistics, 2012b.

CHALLENGES TO THE GREEN CITY

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Many cities across the world are currently moving towards what has been termed "green urbanisation", meaning the creation of sustainable systems in various fields. These include construction (green building); transportation (public transportation systems, bike paths, intermodal transportation, walkable city...); renewable energies; health; sport and open space; green agriculture (organic farming, CSAs , urban farming...); efficient utility networks and urban form planning. Urban form planning can greatly influence the outcomes of the other fields mentioned as they are all constrained by the layout of the constructed environment. For instance, creating an efficient public transportation system in a suburban environment is much more challenging than in a dense urban core, since each line's catchment area will be limited and thus the line may not be able to attract enough passengers to be financially successful.

This analysis will focus on existing urban forms. Green urbanisation is often applied to new "eco-cities", which are often given green labels by governments and developers. However, few of these cities exist, few people live in them and few really deserve their green badge of environmental prowess. Applying green urbanisation principles to existing cities proves more challenging and this is what this brief paper will focus on. What challenges do existing cities in the world pose to green urbanisation? This analysis will try to proffer a few answers by focusing on cities in three different countries: the Netherlands, France and China. We will thus be able to compare two EU countries with an emerging Asian country, China; and within these two European countries compare France, which was until recently heavily centralised, with the Netherlands, a smaller, more decentralised country with a different urban structure and a reputation for being at the forefront of green urbanisation.

All of these countries have now made green urbanisation one of their top priorities. In Europe, the emergence of green urbanisation is at the core of EU 2020 strategy. It will also remain of crucial importance within the new Common Financial Framework 2014-2020, which will reshape European structural and regional policies, as it was recently emphasised during the 5th European Summit of Regions and Cities held in Copenhagen in March 2012. In China, green growth has become a key preoccupation of political elites, the 12th Five-Year Plan being a fundamental game-changer in that respect.

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Green growth was also one of the major themes of the Rio+20 United Nations Conference last June.[1]

I will first attempt to define the main principles underlying the sustainable urban form and see how the Dutch urban model relates to them, before confronting these elements with case studies in France and in China. In my conclusion I will derive from these three cases the major challenges faced by policy makers and other stakeholders in their attempts to make cities greener and more sustainable.

The "good city" of the 21st century: the Dutch case

While the question of "what is the perfect urban form?" might forever remain open and depends on time, location, culture and many other variables, the principles of the good urban form for the 21st century are well defined and agreed on by scholars and practitioners alike. They can be defined as:

- An efficient public transportation system;
- A dense, mixed use, walkable city, that favours social interactions;
- A good environmental quality (air, water, clean energy, recycling…);
- A socially inclusive city without spatial segregation due to income, race, etc.

One will notice that these conditions are interrelated and in fact form a sustainable system. For instance, a dense mixed-use city makes the development of a good public transportation network more viable, which in return contributes to lower pollution and favours encounters between people with different incomes.

Dutch cities seem to come close to the definition of the "green" or "sustainable" city. They are dense, have a walkable downtown where shared space measures are often implemented, while the car is not banned altogether from it. Transportation networks are extensive and include all transportation modes with efficient intermodal nodes (train stations with bike garages and bike racks in commuter trains, park and ride parking spots) allowing passengers to swiftly transfer from one mode to the next. The Dutch can also pride themselves on having a very high share of bike use (26 percent), like other North European countries, in particular Denmark.[2] Contrary to Southern Europe where bikes are often neglected and only seen as a way to exercise, utility cycling thrives in the Netherlands: Dutch people ride their bike not only for fun but also to work, run some errands or visit their friends. In effect, the Netherlands is so completely covered by train lines and bike paths that it is possible to go anywhere in the country within 4 hours of train with a bike and a train ticket, without ever having to drive a car. Moving further in this direction, one could assume that with the help of technology,

[1] Committee of the Regions, *Regions & Cities of Europe*, Brussels, Committee of the Regions, no. 77, April- May 2012.
[2] Dutch Ministry of Infrastructure and Environment, *Mobiliteitsbalans 2011*, Den Haag, Dutch Government, 2011.

post-industrial cities like Dutch cities are moving towards a "flat" transportation model, without centre or periphery, even without this intermediary stage of "polycentric regions". A transportation network will cover every part of the country and work opportunities will almost be similar everywhere, as will land value.

Finally, farming land is more regulated in the Netherlands than elsewhere and cities are kept to reasonable sizes, with no or little urban sprawl. The boundary between urban areas and the countryside is clearly delineated. This, along with the short distance to work, the easy-to-use public transportation and strict environmental laws, contributes to a high quality of life.

The Dutch model seems to be an optimal one. However, other cases present more challenges to sustainable urban development, as we are now going to see.

Resisting green urbanisation: the case of Paris

1/6 of the French population (10 million people) is clustered around the capital Paris, with 2 million people inside Paris and 8 million in the Paris region (Île-de-France). This organic growth spread along major communication roads from the urban core, before filling the farmland between the main development axes. New towns like Évry, Cergy, or Sénart were created in the 1960's, in an attempt to stem this trend. However, combined, a continuous population growth from the countryside and other parts of France until the 1970s; immigration that has resulted in 50 percent of recent immigrants living in the Paris region and a weak legal protection for farming land, mean that urban sprawl has nevertheless continued. As a consequence, while Paris itself represents a fine example of a walkable, mixed-use city endowed with an excellent transportation network, the Paris suburbs, not unlike New Jersey, display a patchwork of single family housing for the working and middle classes and of housing projects for low income households where the need to drive to work, home or to the commercial and entertainment areas (i.e. shopping centres), is frequent.

At the same time, these suburban spaces are not equipped with any mass transit networks, except commuter trains going to and from Paris, even though the majority of "Parisians" actually live there. Moreover, the existing network does not serve the needs of current suburban households anymore, since most of them now work and live in the suburbs and would need a suburb-to-suburb public transportation network as well as a pedestrian and biking network for shorter commutes.[3]

While a few suburb-to-suburb mass transit projects are currently being envisioned, they often have difficulties to get built and when they do, are frequently downscaled to a less ambitious plan. For instance, a tramway line will in the end only be a Bus Rapid Transit (BRT), while regional capital cities

[3] French Agency of Urbanism of Essone Seine Orge(AUDESO), *Contribution de l'Audeso au PDUIF*, Morsang-sur-Orge, Agence d'Urbanisme Essonne Seine Orge, 2009.

such as Bordeaux, Nantes or Strasbourg, even when they are less populated, can often boast an extensive mass transit network.

Several reasons seem to explain this failure: the first one is money. In harsh financial times, resources are only allocated to the most prestigious projects, with the highest political symbolism. While suburban transportation projects serve a real purpose by increasing the mobility of low income households and connecting fragmented spaces, they don't attract as much attention as the ones designed for prestigious historical city centres.

A second factor is retrofitting. In its regional master plan, the Île-de-France regional government plans to densify the existing urban fabric rather than extend it further, and gives subsidies to cities and developers willing to follow this policy. However, changing what is already there proves much more complicated than laying out new suburban plots on vacant farmland.

Finally, the last factor, which is also related to the first one, is people. While the reality of the Parisian urbanisation has changed in the past 50 years, government officials still live in downtown Paris and think that most of the suburb residents commute every day to Paris to work. They see suburban towns as mere commuters' towns, while a majority of suburban residents now live and work in the suburbs.

When one billion Chinese become drivers: the case of Shanghai

While car owners account for a relatively small percentage of the Chinese population, compared to the motorisation rates in the United States or in Europe, their number is rapidly increasing. The number of drivers in Shanghai has more than quadrupled between 1995 and 2004, while the Beijing Municipality had to forbid the entrance of vehicles not registered in Beijing during working hours and create a lottery to give new license plates in order to limit the number of new drivers, and Guangzhou had to implement a system of odd-even license plates to cut in half the number of cars circulating at a given time in the city. At the same time, electrical bikes now account for 15 percent of all trips in Shanghai, however, the electricity produced for these bikes comes from coal and thus actually pollutes more – although not in the city itself – than a traditional scooter.

Walking and cycling still account for 40 percent of all travels in Shanghai, which is much higher than in many Western cities. Chinese cities also respect another principle of the sustainable city: the density principle. The average urban density of Chinese cities in 1995 was approximately ten times that of the American and Australian/New Zealand cities and over 2,5 times that of Western European cities.[4] Contrary to French or American suburbs, Chinese cities are almost entirely made up of mixed use neighbourhoods. Although these networks are still not extensive, major Chinese cities are also already equipped with good quality mass transit networks.

[4] J. Kenworthy & G. Hu, "Transport and Urban Form in Chinese Cities", *DISP*, vol. 151, no. 4, 2002.

Several factors can explain why it is difficult to steer Chinese cities towards green urbanisation, in spite of massive investments from the government in new infrastructure.

The first one is people. It is extremely difficult to prevent the growing middle class from buying a car and to orient their individual preferences towards public transportation, for reasons of social status and convenience – unlike the Dutch case, the mass transit network can still not go everywhere.

The second factor is also people, but concerns the population. How can dense Chinese cities become even denser, without being transformed into a giant Hong Kong? With a growing urban population and a density already at a high level, housing prices are skyrocketing, especially in the prized downtown areas.[5] A study in 600 Chinese cities, based on a survey of 500,000 urban households, has shown that the median price of the housing stock is more than five times the annual household median income.[6]

This leads us to the third factor: money. Most of the residents from major urban areas cannot afford to live in downtown areas and have to live far out in the suburbs. This results in long commutes to work, with more than 40 minutes for half of the commuters in the case of Shanghai.[7] Many Chinese cities are thus divided into different neighbourhoods with wide income variations: gated condominiums for the rich, state-sponsored buildings for civil servants and urban villages for rural immigrants without a *hukou* registration permit. Contrary to Singapore or Hong Kong, where a sizeable percentage of the housing stock is made out of government-built affordable housing, China has moved away from subsidised housing in the past fifteen years. Government sponsored low-rent housing and subsidised private housing account for, on average, only 7 and 4 percent of the total housing stock in urban areas. In contrast, the two most prevalent types of housing are commercial housing (32 percent) and privatized public housing (34.2 percent).[8]

Finally, this brings us to the last issue, scalability. Due to the sheer size of Chinese cities and of their population, one might wonder if the Dutch model could be adopted there. For instance, Chinese cities are often crossed by very large arteries, which pedestrians can only cross on flyovers. How can we reduce the size of these roads and give them a more urban character when congestion is already an issue and car use is increasing at such a fast pace as in China? Even without building more roads and encouraging more traffic (more roads means more cars), changing current traffic design standards and driving habits will be a daunting task. Can we compare cities from a country with 17 million inhabitants with Chinese cities, while the Shanghai Municipality alone has more than 23 million inhabitants? In other words, a

[5] Organization for Economic Cooperation and Development and China Development Research Foundation, *Trends in Urbanisation and Urban Policies in OECD Countries: What Lessons for China?* ,Paris, Organisation for Economic Cooperation and Development, 2010
[6] J. Y. Man, "Affordable Housing in China", *Land Lines*, January 2011.
[7] X. Lu & X. Gu, "The Fifth Travel Survey of Residents in Shanghai and Characteristics Analysis", *Urban Transport of China*, vol.9, no.5, September 2011.
[8] J.Y. Man, op. cit.

more appropriate comparison would be to consider the Netherlands as a whole as a city and to apply the Dutch model to the Chinese megacities of Shanghai, Beijing or Guangzhou.

Conclusion

Four major issues appear to hinder the effect of green planning policies: retrofitting, scalability, people and money. Can the Dutch model be adapted to the Chinese scale? Can Paris move from a centre-periphery model to the creation of a "flat", "equal", urban form? How can we change people's perceptions about suburbs? And what kind of innovative financing can we imagine in times of decreased public funding? It is up to researchers and practitioners from around the world to communicate on best practices, exchange information and test new models and hypotheses in order to overcome current hurdles and better understand how to ensure that cities are following the path of green urbanisation and sustainability.