



## **CHINA'S 12<sup>TH</sup> FIVE YEAR PLAN AND LOW CARBON INDUSTRIALISATION WORKSHOP**

### **CHAIR'S SUMMARY**

**29 February 2012, Istanbul Hyatt Regency Hotel**

#### **CONTEXT OF THE MEETING:**

China has made key strategic decisions in its 12<sup>th</sup> five year plan to move toward a low carbon economy. Its recent five year plan placed low carbon and clean energy industries at the heart of China's forward strategy for growth, competitiveness and industrial modernisation.

In order to deliver energy security, industrial competitiveness and increase innovation, technology development and deployment rate, China has taken various critical decisions. Implementation of these decisions offer many opportunities but also faces significant challenges. In the years ahead, China will aim to realise these decisions through efficiency targets, large scale public investment for low carbon infrastructure, a focus on technology development and innovation, and new regional governance structures. The government is planning to introduce carbon emissions trading pilot programmes through the 12<sup>th</sup> five year plan. China has also announced 'Low Carbon Zones' which include 8 cities and 5 provinces, covering over 300 million people. These would aim to attract international cooperation on technology, investment and capacity building, and provide testing grounds for regulatory, economic, trade and investment policies for regional low carbon development transformation.

As key emerging G20 economies, Turkey and China face similar challenges, such as fast growth and urbanisation rates. Their economy is largely dependent on imported fossil fuels. Given their overall growth prospects and especially as the top two countries with the world's highest rates of electricity market growth, energy security is on top of their political agenda. In an increasingly carbon constrained world, Turkey has a competitive advantage over China due to the higher energy efficiency of its overall economy (0.27 toe/thousand 2000 USD and 0.77 toe/thousand 2000 USD in 2009, respectively). On the other hand, China can achieve economies of scale due to the sheer size of its market. China's experiences in testing low carbon transformation at national and sub-national levels, and through a range of public policy, finance, and governance structures could provide useful lessons for Turkey's own energy security and industrial modernisation agenda within the context of Turkey's forthcoming 10<sup>th</sup> five year development plan in mid-2012 and further implementation of Turkey's National Climate Action Plan.

#### **THE OBJECTIVE OF THE MEETING:**

London-based think-tank E3G and REC Turkey/Climate Platform, with financial support from the British Embassy in Ankara, hosted a workshop in Istanbul on China's 12<sup>th</sup> five year plan and its strategy to move to a low carbon development pathway. This meeting established an informal dialogue between Chinese and Turkish officials, private sector and academics to discuss the risks and opportunities of moving to a low carbon economy. It also provided insight to China's thinking and



strategy, and enabled the sharing of lessons learnt in transitioning to a low carbon economy. The meeting was held under Chatham House rules.

#### **PARTICIPATION:**

E3G	Teknosa İç ve Dış Ticaret A.Ş.
REC Turkey	Akbank
British Embassy in Ankara	Garanti Bankası - Proje Finansman Müdürlüğü
Ministry of Science and Technology, China	Okan Üniversitesi
Development Research Council, China	Beykent Üniversitesi
Chatham House, UK	Tübitak MAM Çevre Enstitüsü
TUSIAD/Climate Platform	Boğaziçi Üniversitesi - KAKAD Türk Milli Komitesi
Zorlu Enerji	Merkezi
Aygaz A.Ş.	İstanbul Maden & Metaller İhracatçı Birlikleri
Unilever	Enerjisa
Arçelik	Brisa
Sabancı Holding	Başbakanlık Yatırım Destek ve Tanıtım Ajansı
TÜRKBESD - Türkiye Beyaz Eşya Sanayicileri	TAV
Derneği	Akfen Holding
Gaia Carbon Finance	Otokar Otomotiv ve Savunma Sanayi A.Ş. İzocam A.Ş.

#### **KEY ISSUES DISCUSSED:**

The first session of the meeting focused on China's 12<sup>th</sup> five year plan and strategic vision for low carbon development and aimed to provide insight into why China has adopted such a strategy. The second session looked closer at China's low carbon industrialisation and innovation strategy and policies.

#### **Key drivers for China's 12<sup>th</sup> five year plan and its move to a low(er) carbon economy:**

- China's 12<sup>th</sup> five year plan has an integrated approach which includes broader economic and industrial policy around low carbon economy and a structural change from quantity to quality provided by going up the value chain. Key speakers emphasised that as set out in China's 12<sup>th</sup> five year development plan, transition to a low carbon economy is very important for its long term socio-economic development, as China is dependent on imports for most resources including energy. Resource efficiency and environmental protection is, therefore, core to the government's economic strategy and policies.
- Even though the low carbon economy concept was at first a foreign term, it chimed with the traditional Chinese way of thinking. It was emphasised that the Chinese took a more practical approach and they identified moving to low CO2 intensity, and low/zero carbon as the main destination.

### **Comparable challenges of emerging economies and opportunities for learning:**

- Some of the parallels between China and Turkey included fast growth and urbanisation rates, major infrastructure challenges, import dependency and energy security issues, focus on manufacturing as a major export sector (e.g. automobiles), and the EU acting as both the primary market and technology provider. Speakers emphasised that both countries are also extremely vulnerable to the impacts of climate change. Comparing the two countries in a literal manner is not appropriate; yet, as emerging economies, they still face similar challenges as opposed to developed countries in Europe, such as the rate of growth in electricity demand, the two highest in the world. Also, looking at other countries' examples is helpful for thinking about the countries' own national interests and understanding where they are in comparison (for example, looking at the role of policy in driving the creation of many new technology companies in China).
- It was noted that in order to capture low carbon opportunities, a longer term vision was needed. Otherwise, these would manifest themselves in terms of risks to future competitiveness and costs. Thinking long-term national interests is crucial and a Turkey 2050 Roadmap would be a very good way of assessing longer term risks and opportunities.
- Despite China's growing ecological footprint, it was noted that China was also developing policies to tackle this problem. This raised the question of how Turkey could benefit from any lessons learnt in China and elsewhere.

### **Technology mix and competitiveness**

- Participants were interested in getting views on future cost reductions in renewable technologies, especially as experienced in solar PV technology in 2009/10. One expert suggested that the significant cost reduction in solar PV was due to two major factors: in 2007-08, despite growing demand, raw material was limited which was pushing up the prices. Additionally, the financial crisis in 2008 led to a reduction in demand for silicon, which again affected prices. The second factor was technological advancement in silicon technology and the increased maturity of the market. Overall, further cost reductions and increases in demand were not expected in the immediate future. The growing market competition is also driving investment in this area which spurred development of new technologies without state support. For instance, leading companies in the Chinese solar PV industry were set up by expat Chinese entrepreneurs using Australian technology.
- The share of coal in overall electricity generation remains high. A participant noted that even China was keen to deploy large scale electric vehicles. In order to lower emissions the electricity would need to come from renewable sources instead of conventional fossil-fuel power plants. One expert noted that life-cycle emissions of electric vehicles are a very important issue. Even though emissions-wise diesel was worse than advanced coal power plant generated electricity, it remained very carbon-intensive compared with other options

such as renewables. The overall ambition to increase the share of renewable electricity supply would help address this issue as well. But these remain difficult issues as China grows very quickly. However, in the next five years, the Chinese government will develop policies to curb fossil fuel energy consumption. China currently consumes half of the world's coal; if not controlled this will be doubled. In addition, there are significant concerns about the large scale infrastructure needed to transport coal from production to consumption centres. It was noted that there are ongoing discussions in China over an overall coal production cap and an energy consumption cap.

- Significant work on CCS is underway in China led by the Ministry of Science and Technology. International research cooperation between US, Japan and China was aiming to carry out demonstrations.
- China evaluated the safety of its nuclear fleet following the Fukushima disaster. China wants to develop its expertise in nuclear technology yet safety is also of utmost importance.

#### **Innovation and international cooperation**

- When asked about what steps Turkey should take, one expert pointed out that China had to develop its own solutions and Turkey would need to 'innovate' its own solutions for addressing these challenges and capturing opportunities. International cooperation especially with Europe has been crucial in helping China develop its own plan. It was noted that Turkey could even move faster than China thanks to its prospects of joining the EU.
- It was added that countries should not be too complacent or overestimate China's rise in the low carbon race. While China is likely to lead in some sectors, growth in global low carbon markets would provide significant opportunities for other emerging players, including Turkey. Technologies are developing fast and there will be innovation growing everywhere. Policy makers need to manage the risks and expand innovation and opportunities for private sector investment.
- The landscape for private sector investment in low carbon technologies changed very quickly in China in response to policy change, and despite the significant amount of coal in current energy systems, the low carbon trajectory is clear. Countries need to work backwards from a long term trajectory and need to think carefully what assets they invest in now.

#### **Decision making and delivery of targets:**

- Participants were interested in understanding the role of central government vs industry and local governments in setting and delivering targets. One expert emphasised that the central and provincial governments, city and county bodies, all have responsibilities. Usually, a task force is established which would include companies (e.g. utilities, oil companies) and the government. This task force set, for example, an energy efficiency level for power plants and will order their shut down if they don't meet these standards.



- On the other hand, the target for R&D was established through both top down and bottom up procedures. The National Plan for S&T was prepared jointly with a large group of scientists over two years. Nevertheless, the NGO role remains weaker. Another expert pointed out that China was moving from target based policy to incentive/market based systems. There was a shift on emphasis from quantity to quality and one could not deliver high added value innovation or a world class company in a top-down manner.