China’s energy outlook

Boqiang Lin
Between 2003-2013, the average energy consumption growth in China was 7.8%, electricity growth 11% and GDP growth 10.3%.
China’s CO₂ emissions and coal consumption from 1990 to 2015

CO₂ (million tons) vs. Standard coal (million tons)

- **Coal consumption**
- **CO₂ emissions**

Yearly data from 1990 to 2015 is shown, with a clear increase in both CO₂ emissions and coal consumption over the years.
In 2014, the heavy industry, including steel and cement, consumed 62.8% of energy, but only contributed 25.5% of GDP.
China’s Primary Energy Structure in 2015

With energy and low carbon development targets of the government, most likely energy structural changes in 13th five years plan: reduce coal; increase gas, nuclear, wind and solar.
The share of oil is restricted by resource endowment and energy security and has been stable. The share of hydro and gas have been increased, but the hydro future development will be limited by hydro potential.
The possible energy structure changes in the 13th five years plan, if the government insists on achieving the target of 15% non-fossil fuels by 2020.
Comparison of rail transits in Tokyo, Beijing and Shanghai

<table>
<thead>
<tr>
<th>City</th>
<th>Size (10^3 \times \text{Km}^2)</th>
<th>Population (million)</th>
<th>Vehicles Numbers (Thousand)</th>
<th>Rail Transit Mileages (km)</th>
<th>Transit Trip Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo</td>
<td>13.4</td>
<td>37.6</td>
<td>8000</td>
<td>2500</td>
<td>86% (rail transit)</td>
</tr>
<tr>
<td>Beijing</td>
<td>16.4</td>
<td>21.7</td>
<td>5480</td>
<td>574</td>
<td></td>
</tr>
<tr>
<td>Shanghai</td>
<td>6.3</td>
<td>24.2</td>
<td>3220</td>
<td>617</td>
<td></td>
</tr>
</tbody>
</table>

* Rail transit mileage of China in 2015 in 3618 km
Thank you!

bqlin@xmu.edu.cn