

China's operating steel capacity increased in 2016, despite efforts on overcapacity

Media briefing on Custeel "Research Report on Overcapacity Reduction in China's Steel Industry"

Research by Greenpeace East Asia and steel consultancy Custeel reveals that despite China's high-profile efforts to tackle overcapacity, China's operating steel capacity increased in 2016. The vast majority of the steel production capacity targeted was already sitting idle, enabling restarts of previously idle factories and new capacity coming online to more than offset the closures of operating capacity.

To make the report possible, Custeel mapped changes in operating capacity in 2016 in unprecedented detail, based on documents from provincial governments as well as industry surveys carried out by the consultants.

A total of 10 Chinese provinces increased their operating capacity, led by Shanxi and Hebei. The Beijing region (Beijing-Tianjin-Hebei) saw a significant net increase, with both of Beijing's neighbors increasing their capacity. Only six provinces achieved a fall in operating capacity, with the largest decreases taking place in the Southwest and in Shandong.

Background

The research was commissioned by Greenpeace East Asia from Custeel¹, a Chinese metallurgical industry consultancy providing industry-leading data gathering and analysis. The company operates Custeel.com, the steel industry information platform led by China Iron and Steel Association and funded by 15 of China's largest steel enterprises and 2 large trading companies.

China's steel demand growth has been slowing since 2011, with 2014 registering the highest demand and a further contraction forecast for 2017. Slowing demand and continued capacity additions have created a gigantic overcapacity problem, creating financial risks at home and contributing to oversupply on the international market.

Key findings

Steel production capacity elimination in 2016 exceeded targets, with a total of 85 million tonnes (Mt) of capacity closed. However, three different factors undermined the effectiveness of the efforts:

- most of the eliminated capacity was already closed down or idle, meaning that only 23 million tonnes of actually operating capacity was closed.
- 49 Mt of steel capacity that had previously suspended production restarted, as the capacity closures curtailed supply and government stimulus increased demand. The restarted capacity is equal to Germany's total steelmaking capacity.

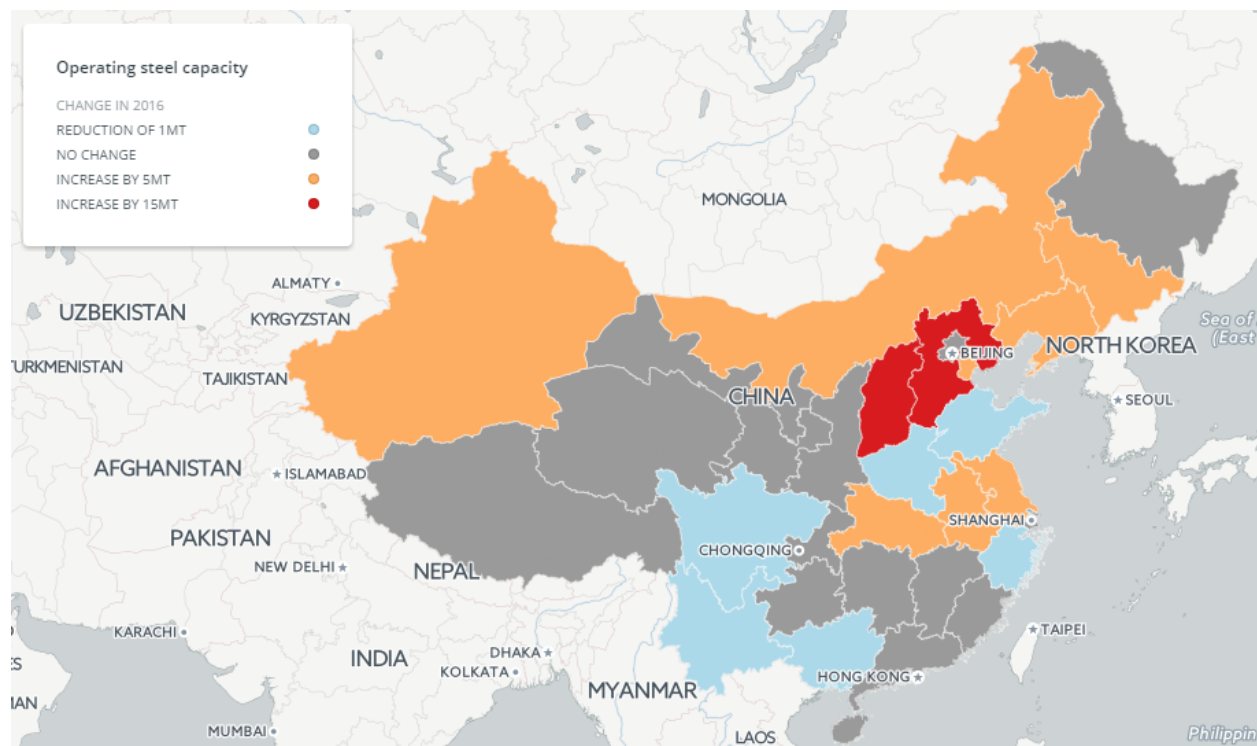
¹ Beijing Custeel E-Commerce Co., Ltd

- 12 Mt of new capacity was still added, offsetting some of the reduction.

As a result, China's operating steel production capacity increased by 36.5 million tonnes in 2016, even as a vast amount of largely idle capacity was eliminated. The increase in operating capacity is more than twice as large as the total steelmaking capacity of the UK. 75% of the capacity restarts and 80% of the net increase in capacity took place in just three provinces neighbouring Beijing: Hebei, Shanxi and Tianjin.

Economic and financial policy pursued in recent years has been contradictory to overcapacity efforts: bank lending and government subsidies to steel industry increased through 2013 to 2015, while in 2016, stimulus policies created a mini-boom in construction, artificially inflating steel demand and steel prices.

Local government measures to protect local steel industry are also apparent in the fact that capacity closures are dominated by privately owned mills and enterprises owned by the central government.

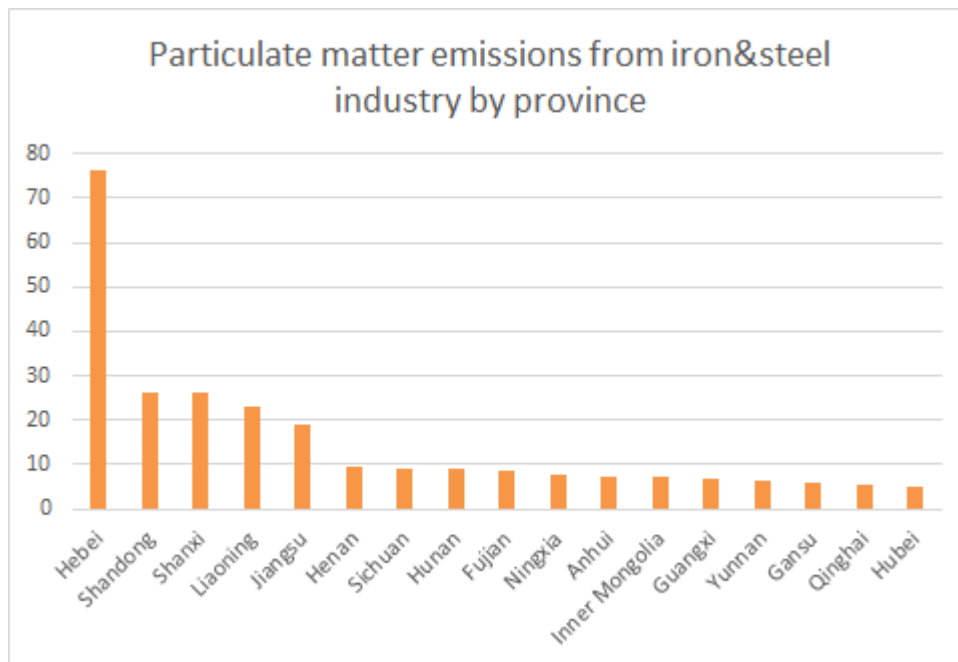
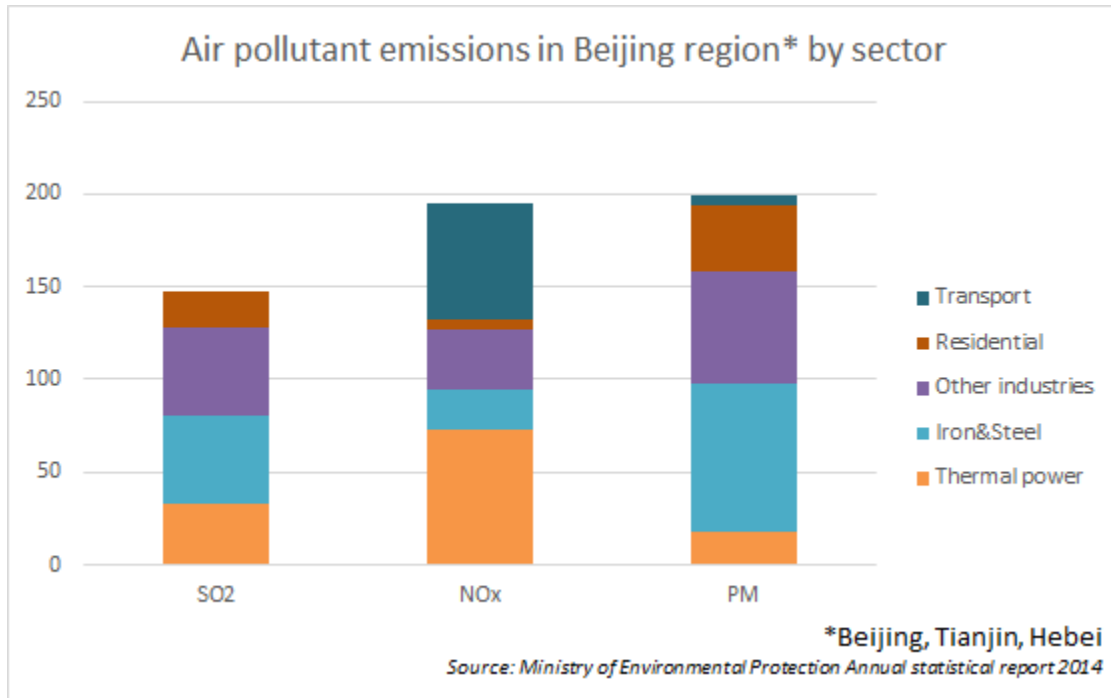


Mapping of changes in operating capacity shows how largest increases are concentrated around Beijing. [Interactive map](#)

The air pollution link

Eliminating excess steel capacity and restructuring the industry has enormous environmental significance because steel industry is the second largest emitter of air pollution in China, as well as second largest coal consumer and emitter of CO₂, after the power sector. In the Beijing

region (Beijing-Tianjin-Hebei), the share of steel industry in emissions even exceeds coal-fired power, due to the heavy concentration of China's steel industry in the region.



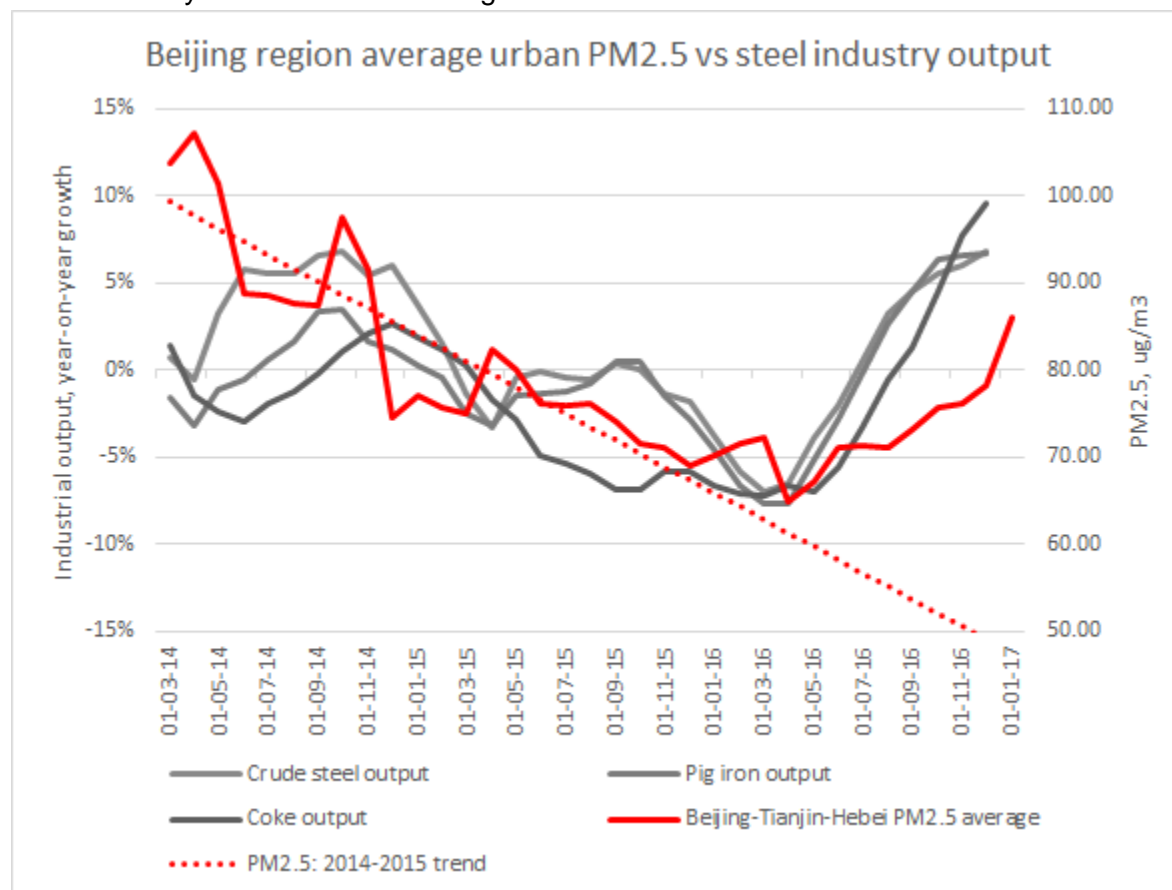
Source: Environmental Ministry Statistical Report, 2014

Hebei dominates air pollutant emissions from steel, both due to high volumes and poor pollution controls. Steel production in Hebei emits more than twice as much particulate matter per tonne

of steel than production in Jiangsu, the number two producer, based on Environmental Ministry Statistical Report for 2014.

In December 2016, Greenpeace analysis revealed² how resurgence in heavy industry volumes had started to undermine Beijing's progress in tackling smog in northern China. As a government-engineered construction surge pushed steel and cement volumes up in 2016, the rapid progress in air quality in the Beijing region stalled, and even reversed for certain months.

The change in the trend was already occurring in the second quarter of the year, and became particularly apparent with the severe air pollution episodes experienced in November and December. The alarming trend has continued in 2017, with Beijing's PM2.5 levels in the first five weeks of the year almost twice as high as in 2016.



PM2.5 pollution levels in the Beijing region were improving rapidly from the beginning of 2014, when national air pollution action plan measures started to bite and steel industry output was slowing; when steel output started to surge in early 2016, the improvements in air quality stalled and reversed.

² <http://energydesk.greenpeace.org/2016/12/16/return-smog-heavy-industry-threatens-beijings-pollution-fight/>

Outlook to 2020

The shortcomings of the overcapacity reduction effort apparent in 2016 developments threaten to undermine the effectiveness of the entire policy of cutting excess industrial capacity, unless addressed soon. Most of the capacity elimination target set for the 2016-2020 period has, technically, already been achieved in 2016, meaning that capacity elimination in 2017-2020 will be much more modest unless targets are increased. Meanwhile, a 21Mt capacity increase is still in the pipeline from new projects, and there is at least 42Mt of existing idle capacity that could be used to fulfil the capacity elimination targets.

Whether China's operating steel capacity increases or decreases over the current five year plan period is depended on whether remaining capacity cuts continue to target idle capacity, or refocus to eliminate mainly operating capacity.

In the best-case scenario, if all the capacity eliminated in the coming year is operating capacity and no restarts of previously closed capacity take place, operating steel capacity could fall by approximately 66 million tonnes in 2017-2020. This would put the total reduction during the 13th FYP period at 30 Mt, a modest amount compared with the 100-150Mt reduction targeted in total capacity.

If, instead, the capacity closures in the provinces continue to be dominated by idle capacity, operating capacity could increase by up to 20Mt. Even in the best case scenario, state-owned capacity is likely to increase, as the closures of operating capacity have disproportionately targeted privately owned mills.

Policy recommendations

Based on the findings of the Custeel report, Greenpeace has the following recommendations to the Chinese government:

- Adjust overcapacity policies to ensure a substantial reduction in actual steel supply to the market by 2020, not only in capacity that exists on paper. During 2016-2020, China's domestic steel demand is projected to fall to 650-700 million tonnes, as steel production and consumption peak. Capacity elimination targets should be re-evaluated, considering the effect of production restarts and new capacity coming online, to ensure a genuine reduction in operating capacity.
- Prevent future restarts of closed down capacity by demolishing rather than merely sealing up closed facilities.
- Carry out thorough investigations into various local governments subsidies, loans and interventions that have prevented the effective functioning of market mechanisms and bankruptcy procedures.
- Prioritize the elimination of inefficient and highly polluting capacity to maximize environmental and economic benefits.
- Make full use of the bankruptcy mechanism to eliminate capacity at zombie companies.

The [full report](#) contains more details on how these broad recommendations can be implemented.

Appendix:

Table 1: The suspension of iron production since 2014 and its status in 2016 (million tons)

Province	Suspended iron capacity since in 2014 (million tons)	Restarted production capacity in 2016 (million tons)	Currently suspended production capacity in 2016 (million tons)
Hebei	30.01	20.17	9.84
<i>of which: Tangshan</i>	23.46	16.07	7.39
Shanxi	25.83	14.71	11.12
Xinjiang	8.09	3.35	4.74
Henan	2.25	2.25	0
Liaoning	2.05	2.05	0
Jilin	2.85	1.80	1.05
Tianjin	6.66	1.65	5.01
Inner Mongolia	4.57	1.18	3.39
Jiangsu	2.93	1.03	1.90
Sichuan	2.07	0.55	1.52
Anhui	2.20	0	2.20
Gansu	0.52	0	0.52
Yunnan	0.52	0	0.52
Total	90.55	48.74	41.81
<i>Estimated corresponding steel smelting capacity³</i>	<i>100.61</i>	<i>54.15</i>	<i>46.46</i>

Source: Custeel

³ average ratio between iron production capacity and the corresponding crude steel production capacity is approximately 0.9:1

Table 2: Net changes of operating steel capacity in 2016 (million tons)

#	Province	Reduced steel capacity total	Reduced operating steel capacity	New added iron capacity		Restarted iron capacity	Net changes of operating capacity
				Local private and state owned enterprise	Central state owned enterprise		
1	Shanxi	0	0	0	0	14.71	14.71
2	Hebei	16.39	10.20	2.10	0	20.17	12.02
3	Xinjiang	0.90	0	0	0	3.35	3.35
4	Anhui	1.10	0	2.70	0	0	2.70
5	Tianjin	3.70	0	0	0	1.65	1.65
6	Jilin	1.08	0.48	0	0	1.80	1.32
7	Hubei	3.38	0	1.25	0	0	1.25
8	Liaoning	6.02	0.82	0	0	2.05	1.23
9	Inner Mongolia	0.67	0	0	0	1.18	1.18
10	Jiangsu	5.80	0	0	0	1.03	1.03
11	Jiangxi	4.33	0	0	0	0	0
12	Fujian	4.45	0	0	0	0	0
13	Hunan	0.50	0	0	0	0	0
14	Guangdong	2.40	0	0	4	0	0
15	Shaanxi	0.70	0	0	0	0	0
16	Gansu	1.44	0	0	0	0	0
17	Guizhou	2.20	0	0	0	0	0
18	Heilongjiang	6.10	0	0	0	0	0
19	Chongqing	5.17	0	0	0	0	0
20	Henan	2.40	2.40	0	0	2.25	-0.15
21	Zhejiang	3.68	0.70	0	0	0	-0.70

22	Guangxi	1.85	0.70	0	0	0	-0.70
23	Sichuan	4.20	1.40	0	0	0.55	-0.85
24	Shandong	2.70	2.40	1.55	0	0	-0.85
25	Yunnan	3.76	1.30	0	0	0	-1.30
	Total	84.92	20.40		11.60	48.74	39.94

[1] We use iron data instead of steel due to lack of steel capacity data. Average ratio between iron production capacity and the corresponding crude steel production capacity is approximately 0.9:1.

[2] The reduced capacity excludes central state owned steel enterprise.

Source: Custeel

Table 3: Estimation of changes in operating steel capacity during 13th Five Year Plan period (million tons)

	Targets of provinces	Targets of central SOEs	Reduced idle capacity of provinces	Reduced operating capacity of provinces	Added operating capacity from replacement	Restarted capacity	Currently idle capacity	Net increase of operating capacity
13th FYP period	159.37	21.37	-	-	26.70	-	-	-
2016	84.92	7.19	61.55	23.37	5.80	54.16	46.45	36.59
2017-2020	74.45	14.18	-	-	20.90	-	-	-