Section 232 National Security Investigation of Imports of Aluminum
Office of Technology Evaluation, Bureau of Industry and Security,
U.S. Department of Commerce

WRITTEN SUBMISSION OF

CHINA NON-FERROUS METALS INDUSTRY ASSOCIATION

The China Non-Ferrous Metals Industry Association ("CNIA") files this written submission pursuant to the request of the Bureau of Industry and Security, U.S. Department of Commerce ("BIS") in its notice of *Change in Comment Deadline for Section 232 National Security Investigation of Imports of Aluminum*, 82 Fed. Reg. 25,597 (June 2, 2017).

CNIA was established in 2001 and is comprised of Chinese nonferrous metals enterprises, institutions, non-profit social organizations and relevant entities. As an independent organization, CNIA provides members in various nonferrous metals industries, including the aluminum industry in China, with information regarding industry developments, including markets, resources, industry statistics, professional trainings, and technological developments.

First, aluminum products exported from China to the United States have not endangered U.S. national security in any respect.

Aluminum products from China and U.S.-made aluminum products are highly complementary. Aluminum products from China that are imported into the U.S. are

mostly general and medium-end products with civilian applications, such as for building structures, packaging, electronic machinery shells or structural components, and commercial vehicles. Most of these products enter the U.S. market via distributors and then reach the end users. None of these products are related to U.S. national defense or military sectors.

On the other hand, aluminum products imported into China from the United States are mostly high value-added thick plates which are used in automobile and airplane structural components. In 2016, China imported 40,000 tons of high-end aluminum thick plates, of which approximately 50% were imported from the United States, worth USD6,291 per ton. By contrast, the price of Chinese-origin plates imported into the United States was only USD2,413 per ton, far less than the unit value for aluminum sent from the United States to China.

Global trade in aluminum products reflects each country's choice of industrial transformation, upgrades and development strategy. Every year, the U.S. exports large quantities of high-end aluminum products. The export amount remains at about 6 billion USD and the export volume accounts for approximately a quarter of its output.

Second, China's primary aluminum industry focuses on developing a healthy industry and meeting domestic demand.

1. China's rapid economic growth has created a huge demand for aluminum, spurring the rapid development of the aluminum industry in China. Over the past 6

decades, China's growth has been highly correlated with increased domestic aluminum consumption. For example, over the past decade, China's average annual growth rate of GDP of more than 10% has driven a 15% growth rate in Chinese aluminum consumption, causing rapid development of China's aluminum industry. The development of China's primary aluminum industry aims to meet domestic demand. For a long period, China faced a shortage of aluminum, and Chinese supply and demand for aluminum were not balanced until 2000. Since 2006, the Government of China has imposed a temporary tariff of 15% on exported primary aluminum. In the past 10 years, China has been a net importer of 2,160,000 tons of primary aluminum.

2. With the acceleration of globalization, the aluminum industry continuously seeks to optimize resources globally. The international division of labor and makeup of the global aluminum industry have been adjusted. Developed countries and regions, such as the U.S., Europe, and Japan, among others, aim to produce high-end products. Concurrently, the energy-intensive smelting and the middle and low-end processing industries have grown in countries with abundant energy and labor, such as the Middle East, Iceland, Russia, China, and India.

3. China has attached great importance to the healthy and restrained development of its primary aluminum industry. Since 2003, China began treating primary aluminum as one of the key industries in macroeconomic regulation and utilized both legal and market mechanisms to curb the blind expansion of production, and to encourage and guide the elimination of inefficient capacity. From 2011 to 2016, China accumulatively closed

5,660,000 tons of primary aluminum capacity and eliminated outdated capacity of 2,400,000 tons, which has relieved periodic supply pressures. In 2017, China reinforced the efforts of strictly controlling new capacity by initiating a special campaign with stringent measures to clean up and rectify projects in the primary aluminum industry that violate Chinese laws and regulations. Thus, it is clear that China is taking aggressive steps to fully alleviate any remaining overcapacity in its aluminum industry.

Third, China's aluminum industry is critical to stimulating global economic growth and boosting global aluminum consumption.

1. China's aluminum industry has stoked global demand by importing bauxite, high-end aluminum products, and mechanical equipment in large quantities during its development. From 2001 to 2016, China imported a total of 410,000,000 tons of bauxite worth USD20,400,000,000 and 8,790,000 tons of aluminum products worth USD40,800,000,000. Over the past 20 years, China's aluminum industry has acquired technologies and equipment worth more than USD70,000,000,000 from overseas, which has boosted the development of equipment manufacturing industries in many other countries.

2. The growth of China's aluminum consumption helps drive global aluminum consumption. China has focused on and achieved significant results in cultivating the aluminum market and guiding the direction of aluminum consumption through actively expanding aluminum applications in transportation, construction, and electricity. This

includes initiatives to increase aluminum usage for aluminum trailers, aluminum alloy electric buses, alloy building formwork, alloy casing, alloy bridges, and alloy power cables. In 2016, global aluminum consumption increased by 4.2% with China representing the vast majority of that growth. Chinese aluminum consumption increased by 7.9%. Non-Chinese consumption of aluminum, meanwhile, increased by only 1.2%. The CNIA hopes to continue to work together with the world to increase aluminum applications in, for example, large-scale application and development of aluminum furniture and aluminum-air batteries.

Fourth, open communication and cooperation among industries are the right way to deal with trade issues, and the CNIA strongly opposes misusing trade restrictions, such as those based on alleged national security concerns.

It is beyond question that every industry may encounter problems and difficulties during its development. China's aluminum industry is willing to work together with the world to face the challenges by sticking to the principles of cooperation, mutually beneficial growth, and win-win strategies. To deal with the global overcapacity issue, the world should not only work together to guide the withdrawal of inefficient production capacity, but also to expand aluminum applications in newly emerging sectors. China's aluminum consumption per capita is below that of the developed countries by 50%. Thus, there is still a lot of room for the growth of China's aluminum consumption.

The CNIA opposes the imposition of trade or investment restrictions on the grounds

of national security. The CNIA is willing to work together with aluminum industries in other countries to strengthen cooperation, remove barriers, and further push the development of global aluminum industry to benefit humanity.

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CHINA NON-FERROUS METALS INDUSTRY ASSOCIATION

SUPPLEMENTAL WRITTEN SUBMISSION

The China Non-Ferrous Metals Industry Association ("CNIA") files this additional written statement pursuant to the request of the Bureau of Industry and Security, U.S. Department of Commerce ("BIS") in its notice of *Change in Comment Deadline for Section 232 National Security Investigation of Imports of Aluminum*, 82 Fed. Reg. 25,597 (June 2, 2017). This written submission supplements CNIA's June 20, 2017 Written Submission.

CNIA was established in 2001 and is comprised of Chinese nonferrous metals enterprises, institutions, non-profit social organizations and relevant entities. As an independent organization, CNIA provides members in various nonferrous metals industries, including the aluminum industry in China, with information regarding industry developments, including market data, analytics, industry statistics, professional trainings, and technological developments.

I. THE UNITED STATES NATIONAL DEFENSE REQUIREMENTS FOR ALUMINUM IS SUPPLIED ENTIRELY BY DOMESTICALLY PRODUCED ALUMINUM

A. The U.S. National Defense and Homeland Security Requirements for Aluminum are Small.

Data compiled by multiple parties show that only a very small amount of high-precision aluminum plate and a few other types of aluminum with particular specifications are related to national defense and homeland security requirements in the United States. For example, in 2015,

the total demand of aluminum in North America was 11.68 million tons, among which, the total demand of aluminum plate was less than 200,000 tons, accounting for less than 1.7 percent of the total aluminum demand in North America.[1] In terms of domestic production, in 2015, the U.S. aluminum industry has produced primary aluminum and secondary aluminum of 5.46 million tons in total. Accordingly, the total requirements for aluminum plate only accounted for less than 4 percent of U.S. total domestic supply.[2]

Further, in recent years, the U.S. defense purchases of primary aluminum and manufactured aluminum are also in very small value. *See* **Table 1**.

Table 1. The U.S. Defense Purchases of Primary Aluminum and Manufactured Aluminum

Primary Aluminum Production (Millions of 2016 dollars) Summary of Defense Purchases			
	2014	2015	2016
Direct Purchases	3	3	3
Indirect Purchases	1,059	984	925
Total	1,062	987	927
Aluminum product manufacturing from purchased aluminum (Millions of 2016 dollars) Summary of Defense Purchases			
	2014	2015	2016
Direct Purchases	18	16	14
Indirect Purchases	1,918	1,796	1,682
Total	1,936	1,812	1,696

[1] Statistics compiled by CNIA

[2] Statistics compiled by CNIA

Source: 2015 Projected Defense Purchases: Detail by Industry and State (Calendar Years 2014 through 2020) at pages 212 and 213.

B. The United States Has an Abundant Supply of Aluminum for National Security.

It is clear that the current and projected national defense and homeland security demand for aluminum can be entirely supplied by U.S. domestic production. The U.S. government requires that the aluminum products supplied by Chinese enterprises used for military, aviation and other national defense purposes are pre-certified.

Furthermore, U.S. domestic aluminum producers possess state-of-the-art technology to process aluminum. U.S. aluminum plate producers are the core suppliers for global aircraft and vessel manufacturers. The high purity aluminum and high-precision aluminum plate used for military aircraft and vessels are all supplied by U.S. domestic aluminum producers. Particularly, the U.S. aluminum producers dominate the production of Al-Li aluminum products used for aviation. The aluminum industry in China currently has no capability to supply such high-end aluminum products.

Moreover, the U.S. aluminum industry has strong supply capability. It is estimated that the U.S. annual production capacity of aluminum plate and sheet exceeds 5 million tons, among which the production capacity of aluminum plate used for aviation reaches 300,000 tons.[3] The production capacity has far exceeded the annual national security demand. In the meantime, the United States exports aluminum sheet and plate, with exports of roughly 900,000 tons per year,

[3] Statistics compiled by CNIA

and specifically 930,000 tons in 2016.[4] Therefore, the U.S. has an abundant domestic supply of aluminum to meet the national defense and homeland security requirements.

II. THE GLOBAL COMPETITIVE ADVANTAGE ENJOYED BY THE U.S. ALUMINUM INDUSTRY ENSURES A CONTINUED AND RELIABLE SUPPLY OF U.S. DOMESTIC ALUMINUM FOR DEFENSE AND NATIONAL SECURITY

A. The U.S. Aluminum Industry Has Acquired Significant Input Resources Globally.

The U.S. aluminum industry has actively optimized bauxite resources globally. For many years, U.S. aluminum companies have acquired and now control significant high quality bauxite in Australia, Brazil, and other countries and regions. For example, the bauxite reserved by just one U.S. company, Alcoa, in these countries has amounted to 230 million tons.[5] Please see below **Table 2**.

Table 2. Global Bauxite Exploration Rights Acquired by Alcoa (Unit: Million Tons)

Country	Mineral Resources	Term of Exploration Rights	Proven Reserves	Alumina (%)	Annual Production Capacity
Australia	Darling Range Mines ML1SA	2024	150	33	31.7
Brazil	Pocos de Caldas	2020	1.3	39.6	0.3
	Juruti	2100	26.5	47.7	4.7
	Trombetas	2046	10.4	49.5	3
Suriname	Coermotibo and Onverdachat	2033	0	0	1.6
Jamaica	Boke	2038	23.2	48.5	3.4

[4] International Trade Centre

[5] 2016 Alcoa Annual Report

Saudi Arabia	Al Ba'itha	2037	19.3	49.4	0.6
Total			230.7		45.3

Source: Alcoa Annual Report (2016)

In the meantime, as a result of the optimization of its global footprint, U.S. aluminum companies have become the major suppliers of bauxite to the global markets. In addition to provide adequate supply for their own production, U.S. aluminum companies also are the major suppliers and distributors of bauxite for the markets in China and EU countries.

B. The U.S. Aluminum Industry Has Shifted the Domestic Production of Aluminum to the Energy-Rich Countries and Regions.

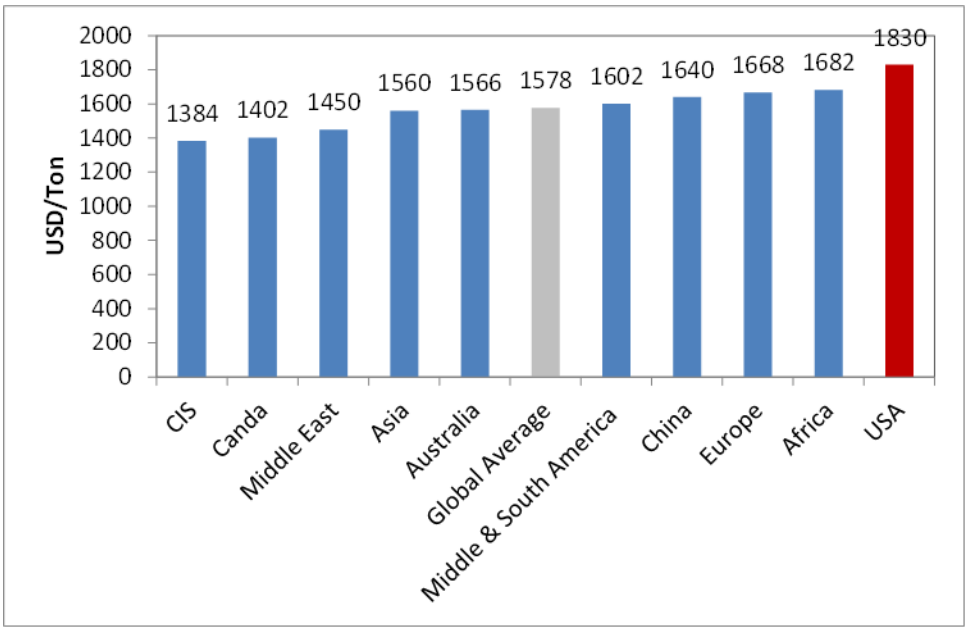
It must be acknowledged that U.S. domestically produced primary aluminum has a higher cost of production compared to that of the global primary aluminum production. Such high production cost is caused by high electricity and labor costs, etc. in the United States. Accordingly, as far back as the 1980s, the United States did not upgrade primary aluminum equipment. Since the 1990s, there have been no newly developed and established U.S. domestic smelters. In addition, energy-intensive and high-cost smelters have been shut down gradually. The U.S. aluminum industry has continued to shift its primary aluminum production capacity to energy-rich countries and regions, such as Iceland and the Middle East.

The U.S. production costs of primary aluminum are among the world's highest at 1830 US dollars/ton in 2016; Russia and Canada are among the lowest, with production costs of 1384 US dollars/ton and 1402 US dollars/ton respectively; the production costs in the Middle East are also lower than the global average with production costs of 1450 US dollars/ton.[6] Thus it can be

[6] CRU, Beijing Antaike Information Co., Ltd (Antaike)

seen that production has been located in regions with great cost advantages. This rationalization of production has benefited U.S. aluminum companies, enhancing their competitiveness. *See* **Figure 1**.

Figure 1. Production Cost of Primary Aluminum Production in Major Countries/Regions (USD/Ton)

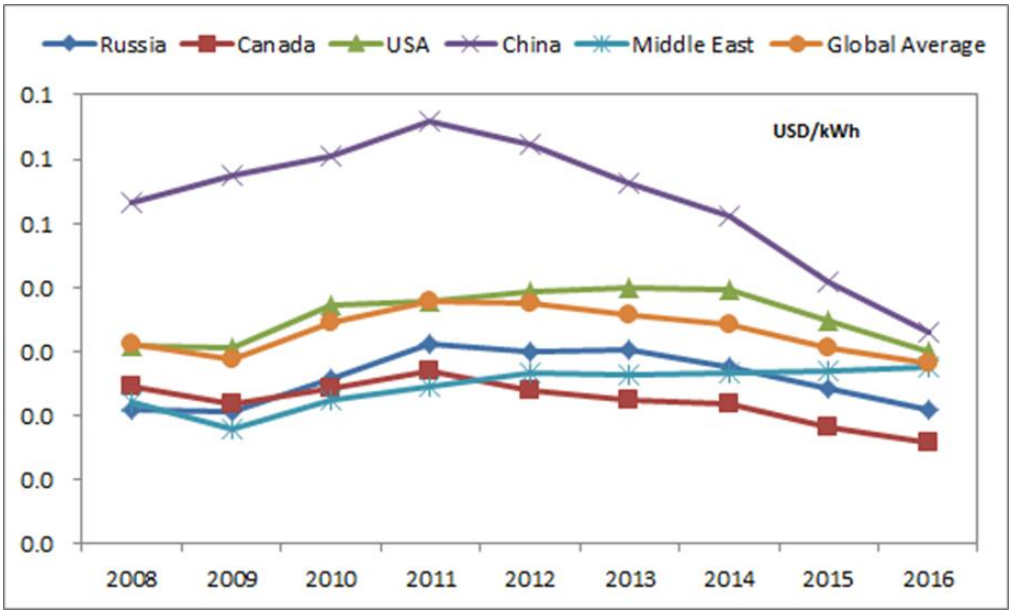


Source: CRU, Antaike

Moreover, Antaike and CRU's research data shows that the cost of alumina and electricity account for 40% and 32%, respectively, of the production cost of primary aluminum (*i.e.*, the liquid metal cost). As the primary aluminum producers are facing a common alumina market, the pursuit of lower cost electricity becomes the differentiating factor among global primary aluminum manufacturers. In recent years, due to the shift towards energy-rich regions and associated decreases in energy prices, the average price of primary aluminum production dropped dramatically. In 2016, the average electricity cost in the primary aluminum industry

was 0.028U.S.D / kWh, a decrease of 10% compared to 2008.[7] Among the major primary aluminum producing countries, Canada had the lowest electricity cost with a price of only 0.016USD / kWh in 2016.[8] In the United States, the electricity price was 0.030USD / kWh in 2016, slightly higher than the global average; the electricity price in the Middle East was 0.027 USD / kWh, slightly lower than the global average.[9] *See* **Figure 2** and **Figure 3** below.

Figure 2. Electricity Cost of Primary Aluminum Production in Major Countries/Regions (USD/Kwh)



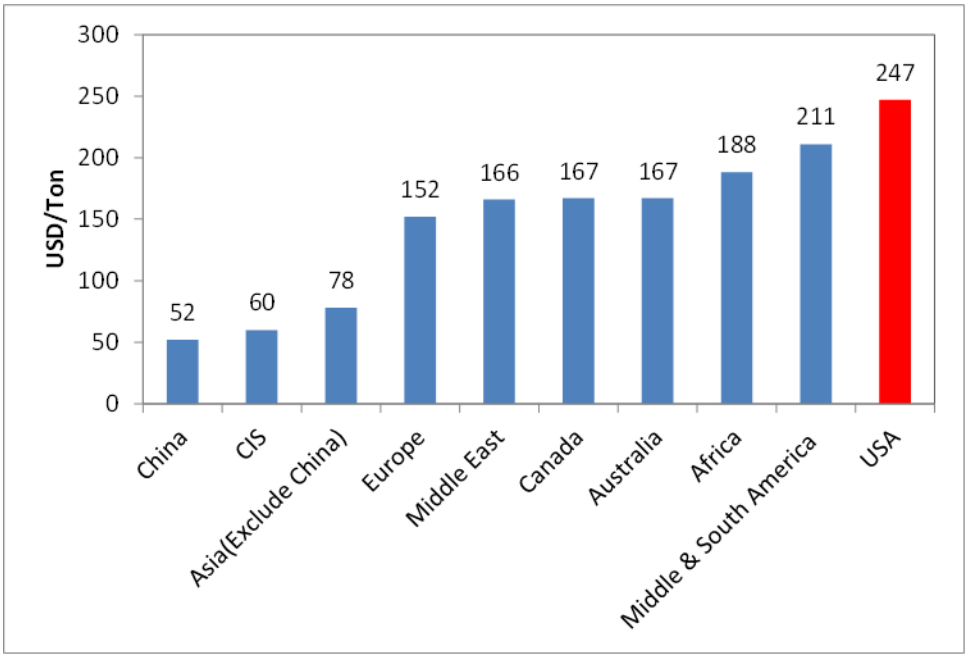
Source: CRU, Antaike

[7] CRU, Antaike

[8] CRU, Antaike

[9] CRU, Antaike

Figure 5. Labor Cost of Primary Aluminum Production in Major Countries/Regions (USD/Ton)



Source: CRU

For example, Alcoa's overseas equity production capacity of alumina and primary aluminum reached above 80% and 70%, respectively in 2016. Meanwhile, Alcoa's U.S. domestic equity production capacity has decreased from 35 percent in 2010 to 24 percent. As of 2016, Alcoa has more than 3.6 million tons of aluminum production capacity outside of the United States, and its total overseas production represents one-third of U.S. total aluminum consumption. The overseas production capacity of Alcoa far exceeds the production capacity of its domestic smelters. This is a perfect example of the U.S. aluminum industry optimizing energy resources and supply capabilities to meet the projected demand for aluminum products. Please refer to below **Table 3** for the global primary aluminum production footprint of Alcoa in past several years.

Table 3. Alcoa Primary Aluminum Production Capacity Global Layout (10,000 Tons per year)

	2010	2011	2012	2013	2014	2015	2016
Total	451.8	451.8	434.1	403.7	349.8	340.2	331.9
U.S.	**158.4**	**158.4**	**140.7**	**125.2**	**105.3**	**105.3**	**78.4**
Australia	38.7	38.7	38.7	38.7	19.7	19.7	19.7
Brazil	36.4	36.4	36.4	36.4	36.4	26.8	26.8
Canada	95.5	95.5	95.5	85	85	85	85
Ice Land	34.4	34.4	34.4	34.4	34.4	34.4	34.4
Italy	19.4	19.4	19.4	15	-	-	-
Norway	28.2	28.2	28.2	28.2	28.2	28.2	28.2
Spain	40.8	40.8	40.8	40.8	40.8	40.8	40.8
Saudi Arabia	-	-	-	-	-	-	18.6
Percentage of Domestic Production	**35%**	**35%**	**32%**	**31%**	**30%**	**31%**	**24%**

Source: 2010-2016 Alcoa Annual Reports

Furthermore, U.S. producers' newly invested aluminum production capacity is equipped with advanced production technology, which consumes less energy and is more efficient. Alcoa, for example, has built a large aluminum production complex in Saudi Arabia. This production complex employs an integrated production model, using bauxite and producing alumina, primary aluminum and aluminum semi-products.[10] This advanced production model is a highly productive and energy-efficient production system. The Saudi complex uses a 400kA prebaked cell to produce primary aluminum, which reduces the average energy consumption by about 10 percent.[11]

Accordingly, as the U.S. aluminum industry has continued to shift its domestic primary aluminum production overseas to optimize its production layout, the production cost for the

[10] Statistics compiled by CNIA

[11] Statistics compiled by CNIA

primary aluminum has been significantly reduced. Therefore, the U.S. aluminum industry has enhanced its competitiveness in the global marketplace. The cost of Alcoa's primary aluminum production, for example, has been reduced by 13.5 percent.[12]

Table 4. Alcoa Average Cost of Production of Each Phase in The Production Chain (U.S.D./Ton)

Production Chain	2015	2016	Reduced Cost (%)
Bauxite	19	16	-15.8%
Alumina	266	146	-45.1%
Primary Aluminum	1828	1581	-13.5%
Carbon	2019	1735	-14.1%

Source: 2016 Alcoa Annual Report

C. The U.S. Has State-of-the-Art Technology in High-End Aluminum Production, Dominating the Global Markets for High-End Aluminum Products

With a long history of aluminum processing, a full range of equipment for the manufacturing of its high-end aluminum products, and second-to-none research, application development, technical control, and production management, the U.S. remains a world leader in the manufacturing of high-end aluminum products, such as aluminum plate and sheet used for aviation and vehicles.

U.S. companies registered 278 of 528 commonly used deformable alloy series with the U.S. Aluminum Association, and most of them were registered by Alcoa, including the world's first Al-Li alloy series 2020. Chinese aluminum companies have only registered three series of deformable alloys with the U.S. Aluminum Association.

For instance, aviation alloys (Al-Li Alloy) were largely developed by the United States

[12] 2016 Alcoa Annual Report

and the key manufacturing technology was first mastered by the United States as well. In the promising automobile aluminum field, it is the United States that first developed and seized the market for automobile sheets. It became the world's largest manufacturer of automobile sheets by investing in this product segment. In 2016, accounting for about 40 percent of the world's total aluminum automobile sheet, the U.S. capacity for automotive sheets exceeds those of European countries.[13] In addition, the U.S. aluminum producers have invested in the Middle East to produce automobile sheets. In conclusion, the U.S. aluminum producers have controlled over 40 percent of global automobile sheets production, among which, Arconic produces 50 percent of the total.

According to Beijing Antaike Information Co., Ltd (Antaike), the U.S. industry's production capacity for hot-rolled products is approximately 5 million tons per year.[14] In addition, U.S. companies also own aluminum processing plants in overseas countries and regions, including Europe, the Middle East, South America, China and Russia. The total production capacity for the hot-rolled products is more than 4 million tons per year in these overseas countries and regions. Among all of the U.S. companies, three major aluminum producers -- Arconic's Davenport Works, Kaiser Aluminum's Trentwood Plant, and Constellium's Ravenswood Rolled Aluminum Plant -- have the production capacity of aluminum plate used for aviation, with the total production capacity of 240,000 tons per year, which accounted for one third of the total thick plate production capacity globally.[15] In addition, Arconic has built manufacturing plants for aluminum plate used for aviation in Italy, Russia and the UK, with the total production

[13] Antaike

[14] Antaike

[15] Antaike

capacity of 52,000 tons per year. In sum, U.S. companies have more than 40 percent of the global production capacity of aluminum plates used for aviation.[16] *See* **Table 5**. and **Table 6**.

Table 5 . Production Capacities of Aviation Thick Plates by U.S. and U.S. Invested Overseas Companies

Country	Company	Capacity (ten thousand tons per year)
U.S.	Arconic's Davenport Works	12.5
U.S.	Kaiser Aluminum Trentwood Plant	7
U.S.	Constellium Ravenswood Aluminum Plant	4.5
Italy	Arconic Fusina Rolling Mill	1.2
Russia	Arconic Sanara	2
UK	Arconic Kitts Green Operations	2 (produces primarily alloy Series-2)

Source: Antaike

[16] Antaike

Table 6. Global and U.S. Automobile Sheet Production Capacity Layout

	Country	Production Capacity (ten thousand tons per year)	Production Capacity Owned by Arconic
North America	U.S.	96	44
Europe	Germany	94	0
	France		
	Switzerland		
	Belgium		
	Austria		
Asia	China	22	0
	Japan	24	0
	Korea	12	0
	Saudi Arabia	12	12
South America	Brazil	12	0
In total		272	56

Source: Antaike

In order to strengthen its position in the high-end aluminum market, Alcoa has adjusted its upstream and downstream productions accordingly. Alcoa has separated its fast-growing aircraft and automobile manufacturing operations. By establishing two independent entities, both of them would able to focus on their respective development and priorities. Arconic was established to focus more on the high-end sectors, such as aerospace, military, and transportation, etc. Arconic has continued to extend the scope of its operations.

Arconic is the core supplier in global aviation, aerospace, and transportation sectors. Arconic's capacity of aluminum plate for aviation accounts for 50 percent of the U.S. domestic production capacity and 25 percent of the global production capacity.[17] In addition, its capacity for automobile sheet production accounts for 46 percent of the U.S. domestic production

[17] Antaike

capacity and 20% of the global production capacity.[18] Particularly, Arconic plays a leading role in the production of the state-of-the-art aluminum-lithium alloy used for the aviation sector. Further, Arconic established a production system of this type of aluminum alloy and kept promoting the commercialization of this product. Nowadays, 60 percent the global production of aluminum-lithium products is made by Arconic. China has purchased a significant amount of aluminum plates from the U.S. used for aerospace industry. [19]

In 2016, Arconic's sales revenue reached 12,394 million USD, which has surpassed that of Alcoa.[20] 64 percent of the sales revenue comes from high-end markets, such as aviation and transportation.[21] Specifically, sales revenue from aluminum products used for military aviation accounted for four percent, and the aluminum products used for commercial and civilian aviation accounted for 39 percent of the company's revenue. Aluminum products used for automobiles accounted for 11 percent of Arconic's total revenue.[22]

Table 7. Revenue of Alcoa and Arconic (sales in millions)

	2016	2015	2014
Alcoa	$9318	$11199	$13147
Arconic	$12394	$12413	$12542

Source: 2014-2016 Annual Reports of Alcoa and Arconic

[18] Antaike

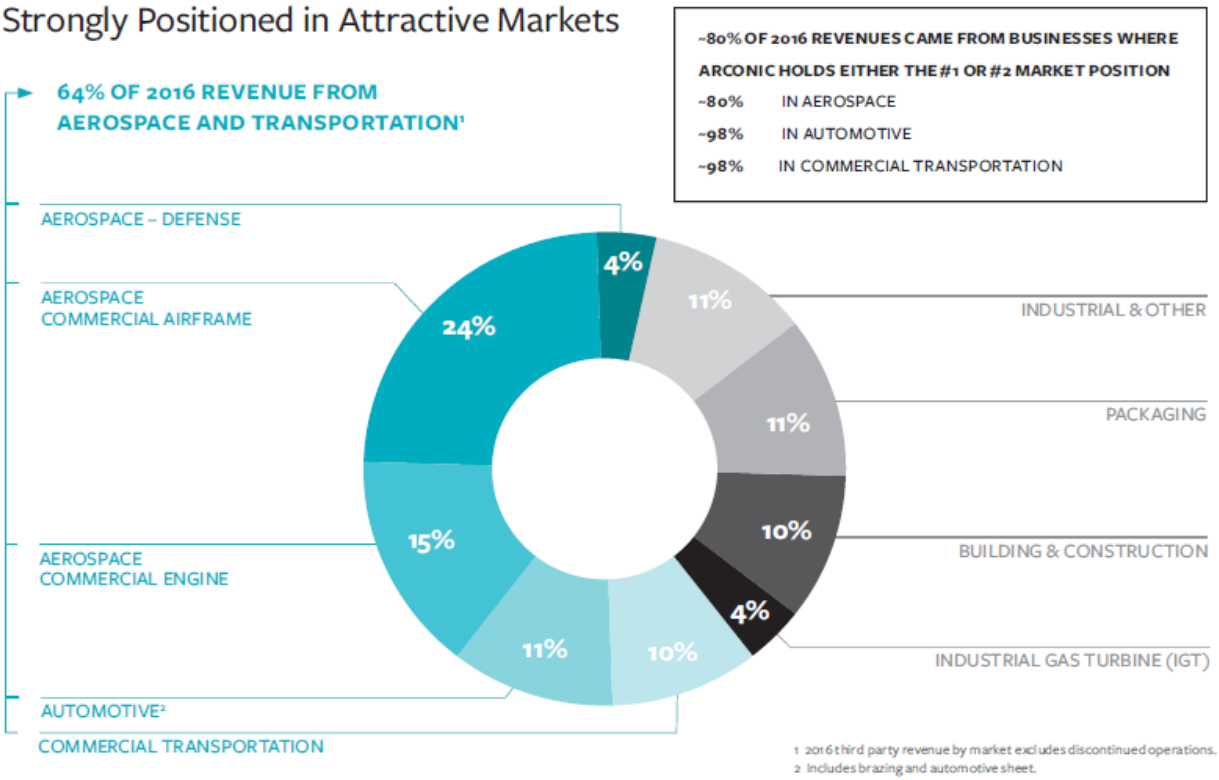
[19] CNIA

[20] 2016 Annual Reports of Alcoa and Arconic

[21] 2016 Annual Report of Arconic

[22] 2016 Annual Report of Arconic

Figure 4. 2016 Arconic Sales Distribution



Source: Arconic 2016 Annual Report

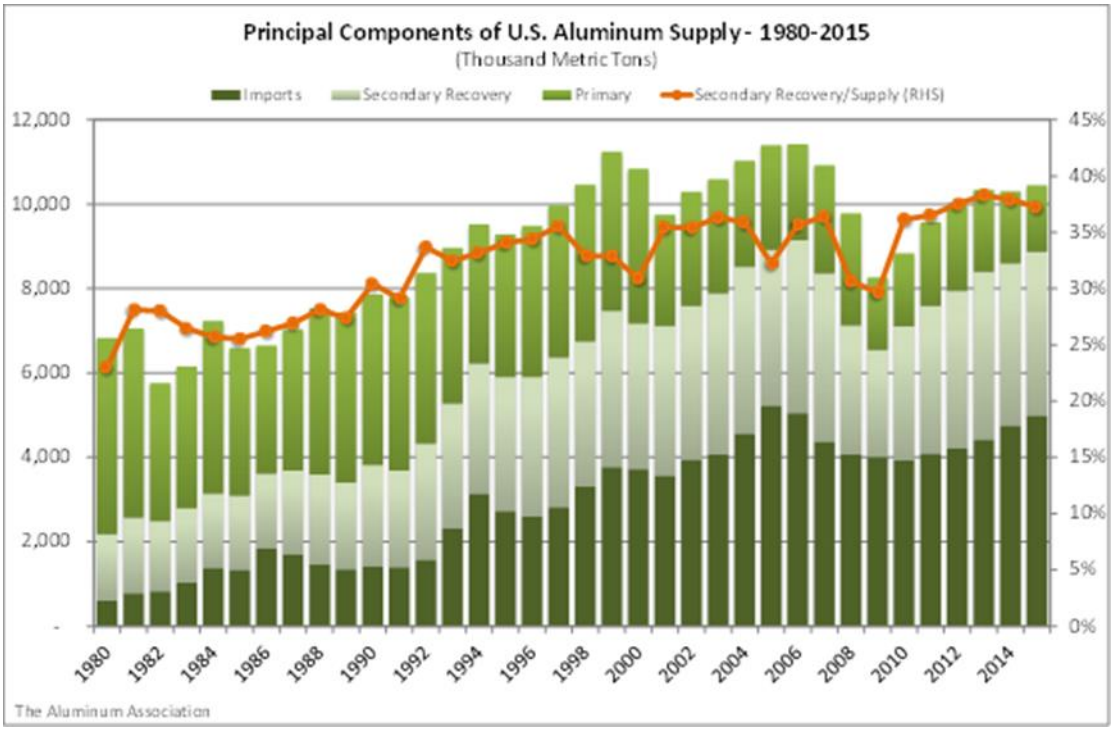
D. Employment in the U.S. Aluminum Industry Has Been Steadily Rising.

The number of people directly employed in the U.S. aluminum industry was 161,000 in 2015, with indirect employment of 551,000, supporting a total of 713,000 jobs and $186 billion U.S. dollars of U.S. output. This is more than 1 percent of U.S. GDP. Since 2013, although the jobs in alumina and primary aluminum fields were reduced by 58 percent, employment in downstream processing sectors more than made up for this decrease. Overall, employment in the U.S. aluminum industry increased by 3 percent during this period.

E. The U.S. Aluminum Supply is Strongly Guaranteed through Various Sources

Due to the huge aluminum stock and the rich aluminum scrap resources in the United States, secondary aluminum has become an important part of U.S. aluminum supply. In 2002, the production of secondary aluminum surpassed that of primary aluminum in the United States. At present, the quantity of secondary aluminum is around 4 million tons, accounting for nearly 40 percent of the total aluminum supply in the United States. Despite the decrease in domestic primary aluminum production, U.S. aluminum supply is guaranteed by imports and recycled aluminum scrap.[23]

Figure 5. Structural Change of U.S. Aluminum Supply



Source: The Aluminum Association

[23] The Aluminum Association

III. U.S. INTERNATIONAL TRADE IN ALUMINUM DOES NOT THREATEN TO IMPAIR THE NATIONAL SECURITY IN THE UNITED SATES

A. The International Trade in Aluminum is the Result of Strategic Choice of Aluminum Industry.

Current global aluminum trade data demonstrates the complementary nature of aluminum trade, which benefits all parties, including the United States and China. In the aluminum production chain, various trading partners have different production advantages. Some countries have raw material advantages, some have advanced technology and equipment, some have abundant energy resources and some have a labor-cost advantage. With the acceleration of globalization, the aluminum industry continuously seeks to optimize resources globally. The international division of labor and makeup of the global aluminum industry have been adjusted. Developed countries and regions, such as the U.S., Europe, and Japan, among others, aim to produce high-end products. Concurrently, the energy-intensive smelting and the middle and low-end processing industry have grown in countries with abundant energy and labor, such as the Middle East, Iceland, Russia, China, and India. Global trade in aluminum optimizes the allocation of resources and, therefore, the utilization of each country's comparative advantages to reduce aluminum production costs, enhance industry competitiveness and, ultimately, achieve win-win results and shared development.

B. U.S. Imports of Aluminum Products Do Not Have Any Impact on National Security in the United States.

Imported aluminum products not only increase the profits of U.S. aluminum companies, but also enhance the competitiveness of U.S. companies. Moreover, U.S. aluminum imports are sourced from a diverse array of countries and territories, and most of these source countries are U.S. allies. None of the U.S. aluminum imports from any particular source country could,

therefore, threaten U.S. national security. The imports from Canada accounted for 50 percent of U.S. total imports of primary aluminum and alloy.[24]

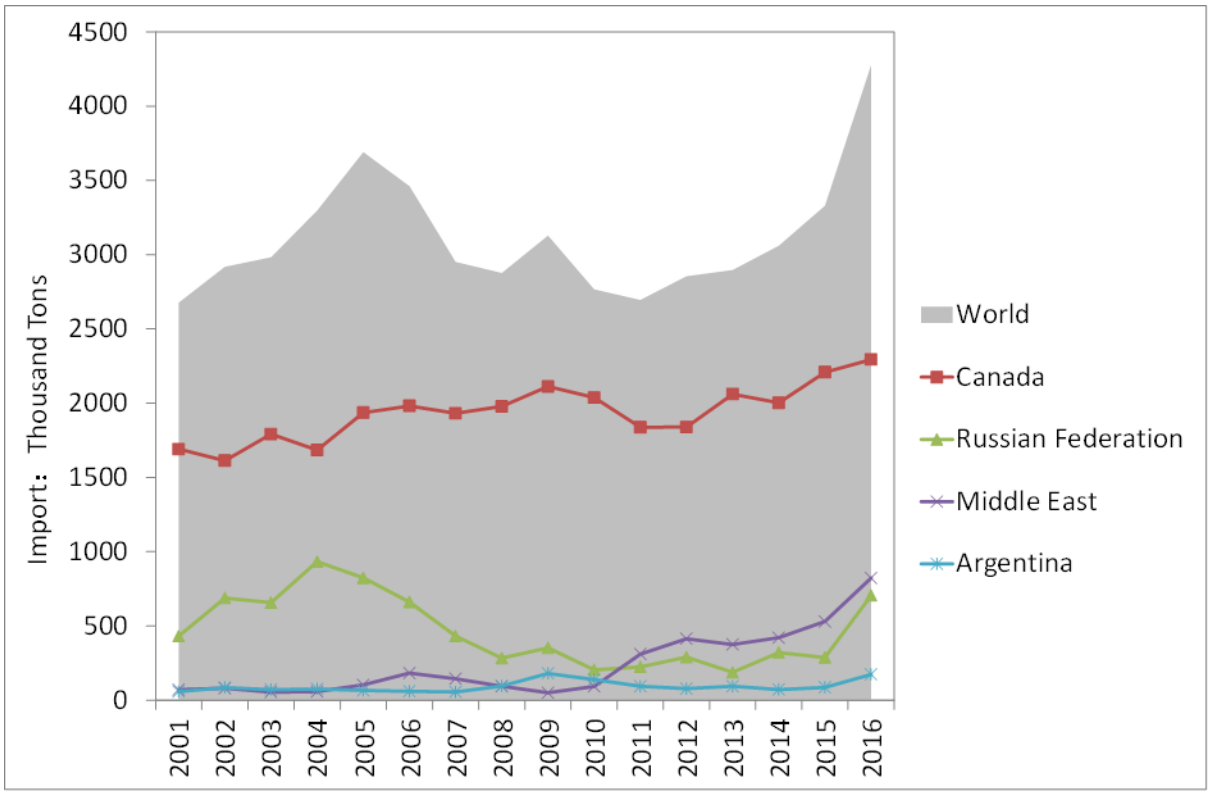
Table 8. Source Country of U.S. Imports of Primary Aluminum and Alloy (1000 Ton)

	World	Canada	Russian	UAE	Argentina	Qatar	Bahrain	Venezuela	Saudi Arabia	South Africa	Brazil	Others
2001	2677	1690	431	62	58	0	8	161	0	20	59	188
2002	2918	1613	688	61	85	0	18	205	1	16	58	174
2003	2983	1791	657	51	72	0	3	186	0	9	89	123
2004	3298	1685	932	54	76	0	3	149	1	40	211	147
2005	3691	1936	824	79	66	0	23	149	1	78	187	348
2006	3461	1981	661	100	59	0	76	135	7	80	128	234
2007	2951	1931	432	108	55	0	36	64	1	63	80	181
2008	2877	1978	283	83	95	0	10	180	1	9	79	159
2009	3129	2112	352	48	180	0	2	178	0	53	124	80
2010	2766	2038	204	82	138	11	0	123	0	14	57	98
2011	2695	1838	224	242	94	68	0	64	0	14	32	119
2012	2855	1839	290	254	78	132	26	48	1	8	19	160
2013	2897	2061	187	250	94	95	29	12	0	21	17	129
2014	3060	2002	321	261	72	92	54	63	14	35	13	134
2015	3330	2208	287	293	86	86	74	48	76	0	0	170
2016	4276	2294	705	547	174	116	107	63	53	41	29	148

Source: International Trade Centre

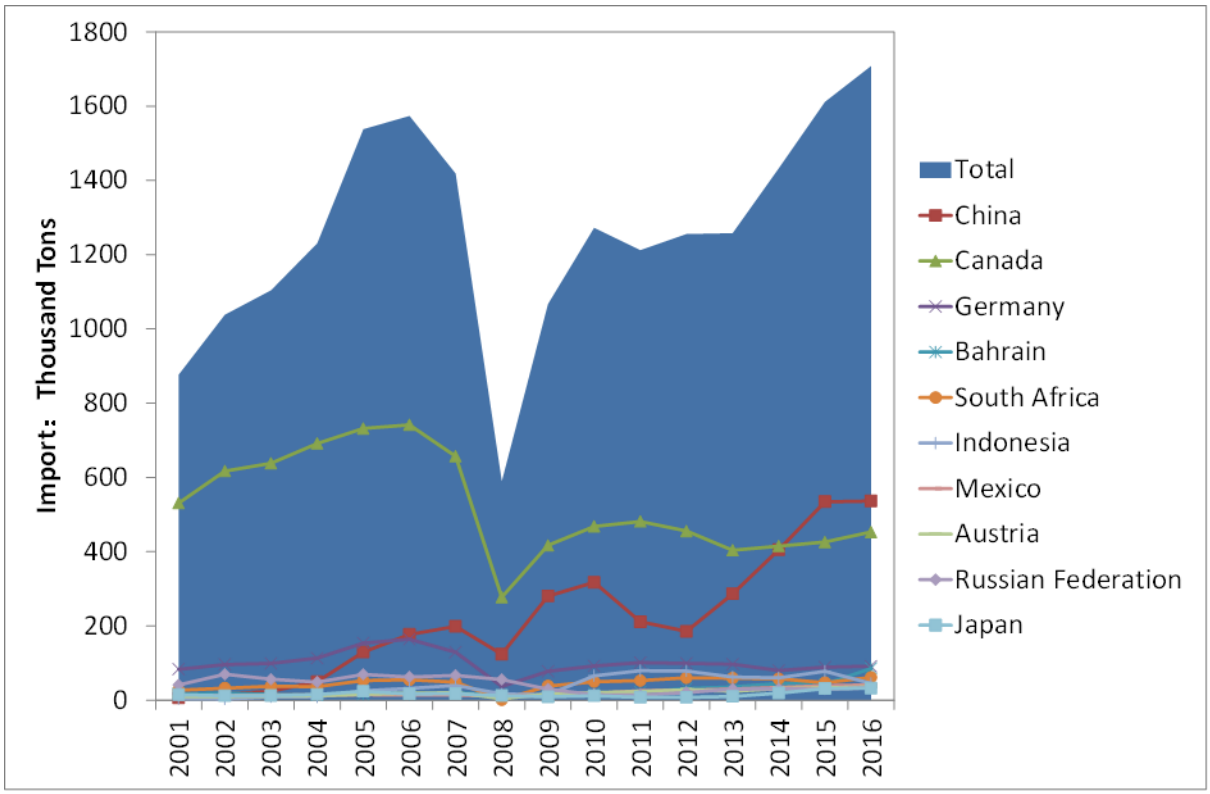
[24] International Trade Centre

Figure 6. Source Country of U.S. Imports of Primary Aluminum and Alloy (1000 Tons)



Source: International Trade Centre

Figure 7. Source Country of U.S. Imports of Aluminum Products (1000 Tons)



Source: International Trade Centre

The U.S. imports semi-fabricated aluminum products from Canada, China, Mexico, South Africa, and other countries. It must be acknowledged that the unit price of U.S. imports of semi-fabricated aluminum products is lower than that of a similar exported product. Imported aluminum products not just increase the profitability of the U.S. aluminum producers and in the meantime, these imported aluminum products also enhance the competitiveness of relevant U.S. industries.

Table 9. United States Unit Price Comparison of Imports and Exports (USD/Ton)

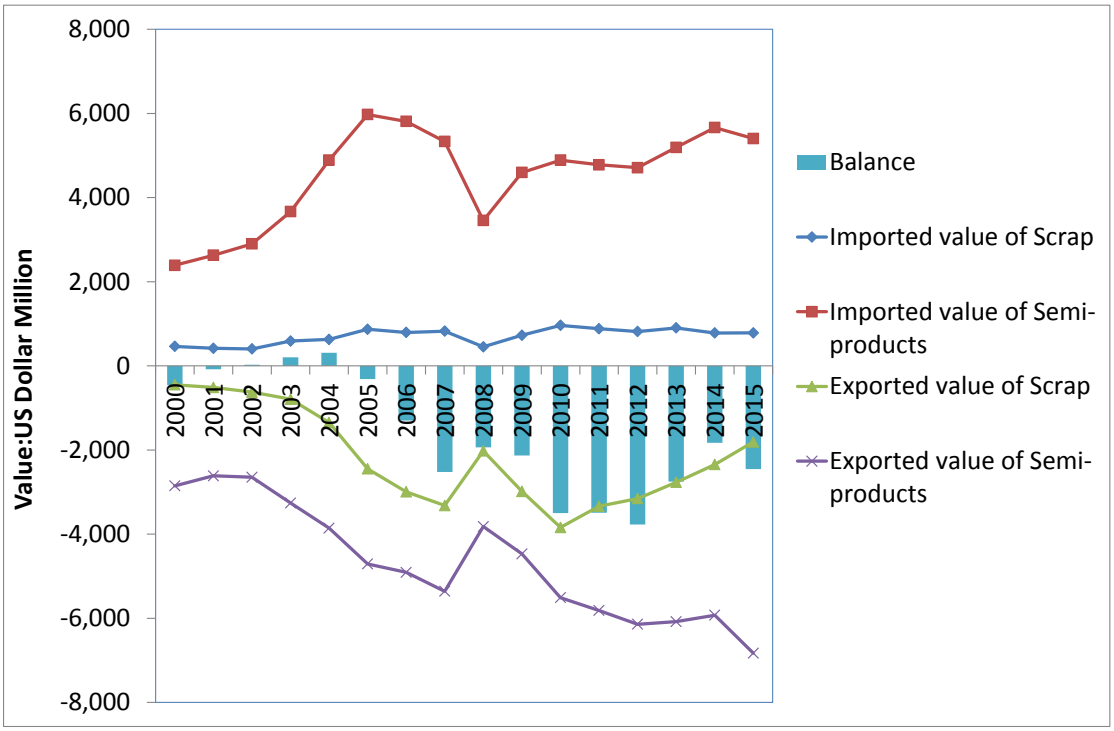
	Unit Price of Imports			Unit Price of Exports			The percentage that Unit Price of Imports lower than that of Exports (three-year average)
	2014	2015	2016	2014	2015	2016	
Primary Aluminum and Alloy	2387	2201	1909	2506	2342	2088	-6.8%
Aluminum Products	5668	5489	5409	6594	6437	6198	-16.1%
Among which: Extruded Aluminum	4310	4332	4065	4558	4510	4551	-7.2%
Aluminum Plate and Sheet	3190	3140	2846	4143	4047	3843	-31.1%
Aluminum Foil	4833	4503	3862	5706	5647	5052	-24.3%

Source: International Trade Centre

C. The U.S. Aluminum Industry Profitably Exports Aluminum.

The U.S. aluminum industry has the most up-to-date technology to produce aluminum slab, high-precision aluminum plate and aluminum sheet. The most advanced Al-Li alloy plate used for aviation can only be produced in the United States and European countries, and their aluminum industries have maintained dominance in this market. The United States exports enormous amount of high-end, high-value aluminum products, the total value of annual exports sustains at 6 billion USD. The total volume of exports amount to a quarter of its total domestic production. In fact, the average unit price of U.S. exported aluminum products is 30 percent higher than that of similar U.S. imported aluminum products, and prices for U.S. exports of certain aluminum products can be several times higher than import prices for similar products.

Figure 8. Value and Surplus of U.S. Exports and Imports of Aluminum Scraps and Aluminum Products



Source: International Trade Centre

In addition, the U.S. also preserves the abundant resources of aluminum scrap, and exports a significant amount of aluminum scrap. As one of the largest aluminum scrap exporting countries, in 2016, total exports value of semi-fabricated aluminum products and aluminum scrap amounted to 8.6 billion USD, creating a 2.5 billion USD trade surplus. CNIA provides below data with respect to the U.S. exports of primary aluminum and aluminum products.

Table 10. Volume of U.S. Exports of Aluminum Plate and Sheet (HTS7606) (10000 Tons)

	World	Canada	Mexico	China	Korea	Japan
2001	70.2	41.1	9.0	3.1	1.4	0.7
2002	65.4	42.2	9.1	2.1	0.6	0.4
2003	63.7	42.9	8.8	1.8	1.5	0.3
2004	73.2	47.7	11.1	3.3	1.5	0.5
2005	79.4	43.9	16.5	3.7	1.1	0.7
2006	81.2	42.3	18.6	3.4	1.3	1.3
2007	78.4	37.8	18.8	1.3	1.6	1.3
2008	82.5	36.9	20.5	2.7	1.4	1.1
2009	66.9	27.2	20.0	3.1	0.8	0.4
2010	70.7	32.6	20.4	2.7	1.2	0.6
2011	81.4	33.6	23.2	2.6	1.5	1.2
2012	90.2	35.4	26.7	3.5	1.7	1.2
2013	96.8	36.1	30.4	3.1	2.1	1.5
2014	93.5	36.7	31.6	3.5	2.5	1.5
2015	93.4	39.3	35.0	3.3	2.8	1.8
2016	93.1	40.1	33.6	3.1	2.7	2.2

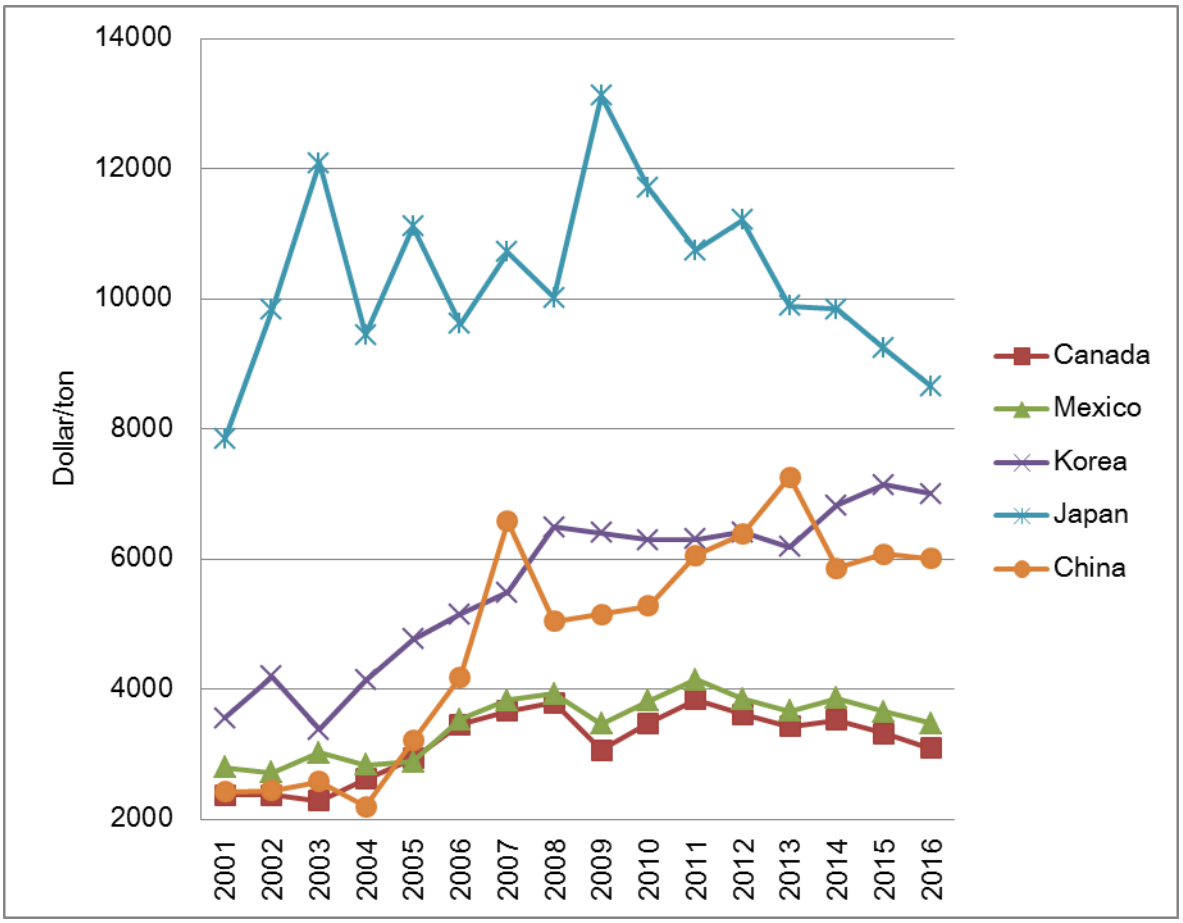
Source: International Trade Centre

Table 11. Unit Price of U.S. Exports of Aluminum Plate and Sheet (HTS7606) (USD/Ton)

	World	Canada	Mexico	Korea	Japan	China
2001	2716	2371	2792	3549	7839	2425
2002	2605	2369	2720	4189	9833	2438
2003	2657	2280	3017	3373	12088	2578
2004	2893	2617	2833	4133	9446	2197
2005	3189	2929	2885	4766	11112	3206
2006	3790	3456	3533	5148	9613	4182
2007	4094	3664	3831	5484	10711	6576
2008	4227	3792	3932	6491	10021	5040
2009	3667	3061	3469	6400	13117	5147
2010	3970	3477	3823	6288	11697	5281
2011	4341	3840	4146	6301	10742	6052
2012	4173	3608	3847	6406	11211	6380
2013	4075	3428	3666	6187	9889	7256
2014	4143	3528	3862	6820	9836	5857
2015	4047	3315	3655	7137	9236	6074
2016	3843	3087	3476	7006	8652	6011

Source: International Trade Centre

Figure 9. Unit Price of U.S. Exports of Aluminum Plate and Sheet (HTS7606) (USD/Ton)



Source: International Trade Centre

Table 12. Unit Price of U.S. Exports of Aluminum Foil (HTS7607) (USD/Ton)

	World	Mexico	Canada	United Kingdom	China	Ireland	Germany	Malaysia
2001	3804	2731	3343	5048	6377	4039	14400	28744
2002	3815	2325	3657	4059	6940	3639	8148	19327
2003	3617	2968	3151	2952	5658	3463	6534	18032
2004	3737	3646	3270	3082	4435	4238	3815	13426
2005	3990	3595	3652	3265	5719	4321	7628	14599
2006	4658	4283	4155	4494	7464	4555	7832	15982
2007	4899	4488	4406	4993	8009	4624	7485	22429
2008	5137	4670	4506	4970	5992	4963	9014	19681
2009	5031	4653	4095	5106	10300	5810	7075	19807
2010	5217	4558	4658	4960	9104	6049	9434	16659
2011	4829	4780	4963	5143	7473	6354	9319	9033
2012	5174	4689	4906	6014	8087	5750	11791	10871
2013	5662	4683	5272	5456	10683	6764	9721	10890
2014	5706	4590	5535	5816	9051	6264	10214	41273
2015	5647	4731	5206	5262	8132	5610	11023	29351
2016	5052	4108	5102	5220	7614	5879	10385	17850

Source: International Trade Centre

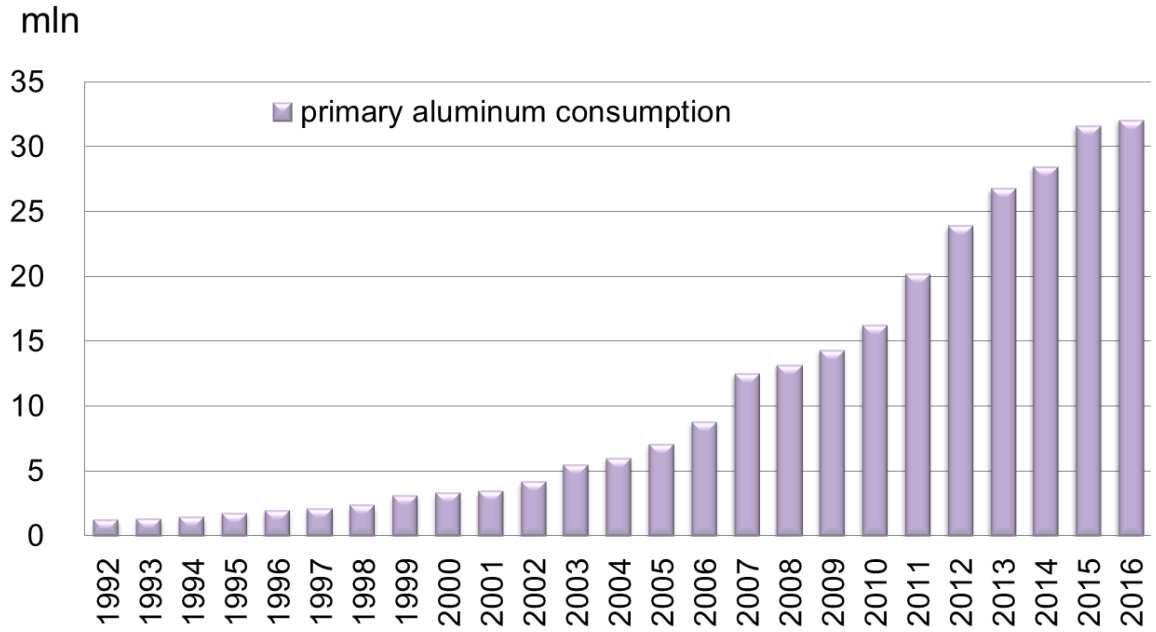
IV. THE DEVELOPMENT OF THE CHINA ALUMINUM INDUSTRY DOES NOT IMPACT THE NATIONAL SECURITY IN THE UNITED STATES IN ANY ASPECT

A. China's Primary Aluminum Industry Focuses on Developing A Healthy Industry and Meeting Domestic Demand.

China's rapid economic growth has created a huge demand for aluminum, spurring the rapid development of the aluminum industry in China. Over the past 6 decades, China's growth has been highly correlated with increased domestic aluminum consumption. For example, over the past decade, China's average annual growth rate of GDP of more than 10 percent has driven a 15 percent growth rate in Chinese aluminum consumption, causing rapid development of China's aluminum industry. The development of China's primary aluminum industry aims to meet domestic demand. For a long period, China faced a shortage of aluminum, and Chinese supply and demand for aluminum were not balanced until 2000. Since 2006, the Government of

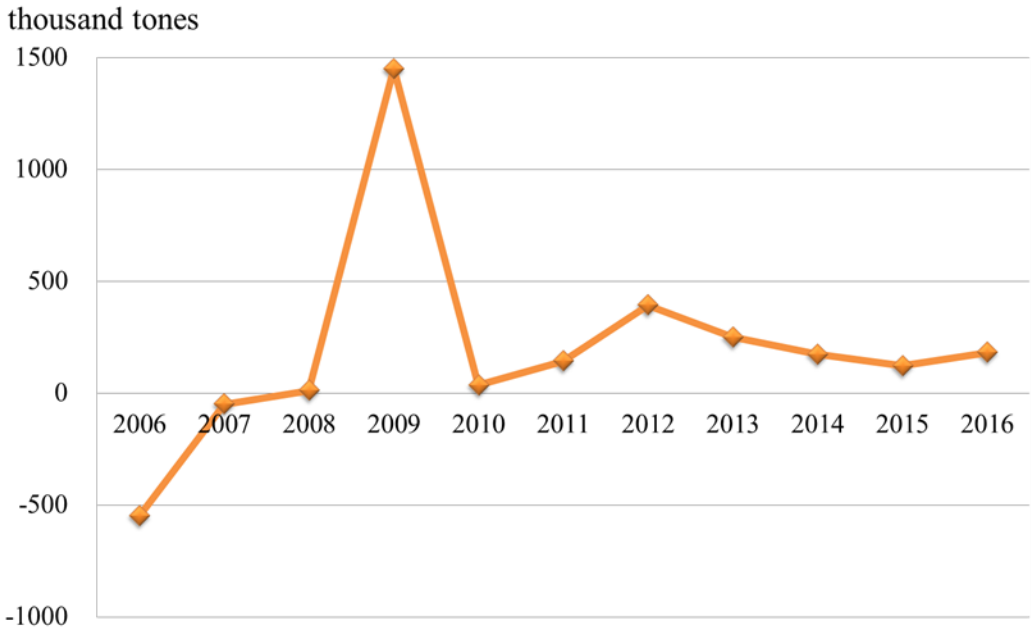
China has imposed the tentative tariff of 15 percent on exported primary aluminum. In the past 10 years, China has been a net importer of 2,160,000 tons of primary aluminum. *See* **Figure 12** and **Figure 13**.

Figure 10. China Apparent Consumption of Primary Aluminum (1992-2016)



Source: The Statistics Bureau of China, The Customs of China and CNIA.

Figure 11. China Net Imports of Primary Aluminum (2006 - 2016)



Source: The Customs of China

With the acceleration of globalization, the aluminum industry continuously seeks to optimize resources globally. The international division of labor and makeup of the global aluminum industry have been adjusted. Developed countries and regions, such as the U.S., Europe, and Japan, among others, aim to produce high-end products. Concurrently, the energy-intensive smelting and the middle and low-end processing industry have grown in countries with abundant energy and labor, such as the Middle East, Iceland, Russia, China, and India.

CNIA notes the question posed by Deputy Assistant Secretary of Commerce Borman to Mr. Li Xie of the Ministry of Commerce of the People's Republic of China at the public hearing, and CNIA hereby responds to this question. The Government of China and Chinese aluminum industry pays careful attention to the healthy development of the industry. Since 2003, China began treating primary aluminum as one of the key industries in macroeconomic regulation and

utilized both legal and market mechanisms to curb the expansion of production, and to encourage and guide the elimination of inefficient capacity. This focus has successfully eliminated significant domestic aluminum production capacity. From 2011 to 2016, China had accumulatively closed more than 5,000,000 tons of primary aluminum capacity and eliminated outdated capacity of 2,400,000 tons, which has relieved periodic supply pressures.[25] In 2017, China reinforced these efforts of strictly controlling the new capacity by initiating a special campaign with stringent measures to rectify projects in the primary aluminum industry that violate Chinese laws and regulations. Thus, it is clear that China is taking aggressive steps to fully alleviate any remaining imbalance in the supply and demand in its aluminum industry.

B. China's Aluminum Industry Is Critical to Stimulating Global Economic Growth and Boosting Global Aluminum Consumption.

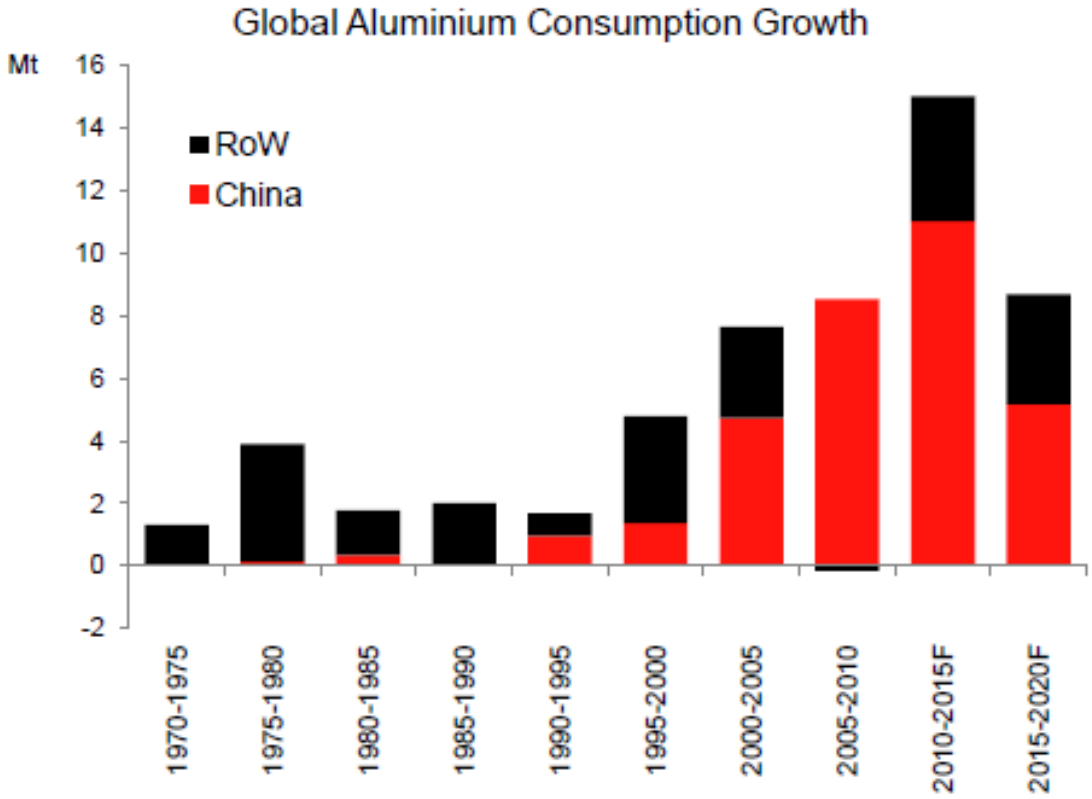
China's aluminum industry has stoked global demand by importing bauxite, high-end aluminum products, and mechanical equipment in large quantities during its development. From 2001 to 2016, China imported a total of 410 million tons of bauxite worth USD20,400 million tons and 8.79 million tons of aluminum products worth USD40,800,000,000. Over the past 20 years, China's aluminum industry has acquired technologies and equipment worth more than USD70,000,000,000 from overseas, which has boosted the development of equipment manufacturing industries in many other countries.

CNIA notes the question posed by Deputy Assistant Secretary of Commerce Borman to Mr. Li Xie of the Ministry of Commerce of the People's Republic of China at the public hearing, and CNIA hereby responds to this question. The growth of China's aluminum consumption

[25] Statistics compiled by CNIA

helps drive global aluminum consumption. China has focused on and achieved significant results in cultivating aluminum market and guide the direction of aluminum consumption through actively expanding aluminum applications in transportation, construction, and electricity. This includes initiatives to increase aluminum usage for aluminum trailers, aluminum alloy electric buses, alloy building arrangements, alloy casing, alloy bridges, and alloy power cables. In 2016, global aluminum consumption increased by 4.2 percent with China representing the vast majority of that growth. Chinese aluminum consumption increased by 7.9 percent. Non-Chinese consumption of aluminum, meanwhile, increased by only 1.2 percent.

Figure 12. Global Consumption of Primary Aluminum



Source: Macquarie Research

C. U.S. Imports from China of Aluminum Products Do Not Impair U.S. National Security.

Aluminum products from China and U.S.-made aluminum products are highly complementary. Aluminum products from China that are imported into the U.S. are mostly general products with civilian applications, such as for building structures, packaging, electronic machinery shells or structural components, and commercial vehicles. Most of these products enter the U.S. market via distributors and then reach the end users. None of these products are related to U.S. national defense and military sectors.

On the other hand, aluminum products imported into China from the United States are mostly high value-added thick plates which are used in automobile and airplane structural components. In 2016, China imported 40,000 tons of high-end aluminum plates, of which approximately 50% were imported from the United States, worth USD6,291 per ton.[26] By contrast, the price of Chinese-origin plates imported into the United States was only USD2413 per ton, far less than the unit value for aluminum sent from the United States to China.[27]

[26] International Trade Centre

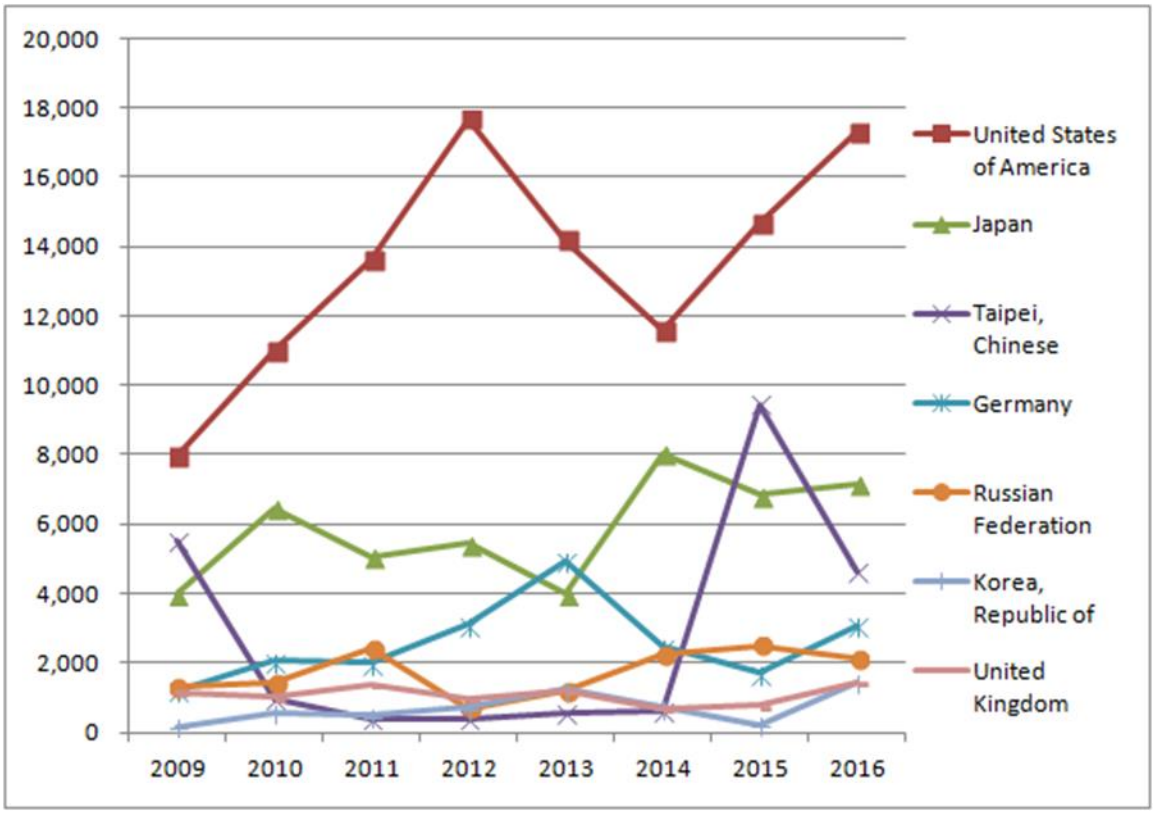
[27] International Trade Centre

Table 13. Unit Prices of U.S. Exports and Imports of Aluminum Plate and Sheet, and Aluminum Foil (USD/Ton)

	Unit Price of Aluminum Foil			Unit Price of Aluminum Plate and Sheet		
	U.S. Exports to China	U.S. Imports from China	Difference	U.S. Exports to China	U.S. Imports from China	Difference
2006	7464	3816	3648	4182	3054	1128
2007	8009	4315	3694	6576	3296	3280
2008	5992	4529	1463	5040		5040
2009	10300	3509	6791	5147	2121	3026
2010	9104	3771	5333	5281	2803	2478
2011	7473	4009	3464	6052	3048	3004
2012	8087	3796	4291	6380	3003	3377
2013	10683	3700	6983	7256	2729	4527
2014	9051	3512	5539	5857	2667	3190
2015	8132	3388	4744	6074	2712	3362
2016	7614	3043	4571	6011	2413	3598

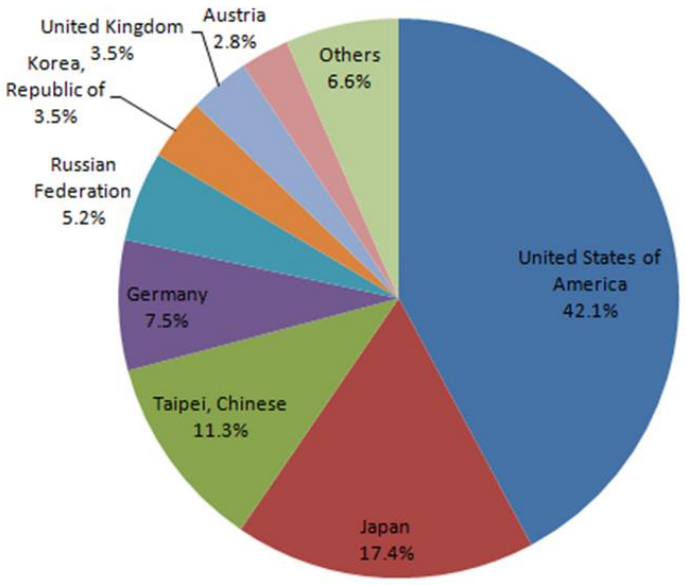
Source: International Trade Centre

Figure 13. Source Country of China Imports of Alloy Slabs (HTS7606.1290) (Unit: Ton)



Source: International Trade Centre

Figure 14. 2016 Source Country of China Imports of Alloy Slabs (HTS7606.1290) (Unit: Ton)



Source: International Trade Centre

V. ALL PARTIES NEED TO WORK IN JOINT FORCES TO SOLVE PROBLEMS FACING THE GLOBAL ALUMINUM INDUSTRY

A. Aluminum Overcapacity Is A Global Issue That Needs to be Addressed by All Stakeholders.

Global economic growth continues to boost demand for aluminum. In 2016, global demand for primary aluminum increased from 23.94 million tons in 2001 to 60.1 million tons, with an average annual growth of 5.6 percent.[28] The annual growth rate of demand in China was 15 percent.[29] Driven by demand, the global primary aluminum capacity and production continues to grow. By the end of 2016, the capacity of global primary aluminum reached 74.9 million tons per year, and the production in that year was 58.87 million tons. From 2001 to 2016,

[28] CRU, Antaike

[29] CRU, Antaike

the annual output growth rate was 5.4%.[30]

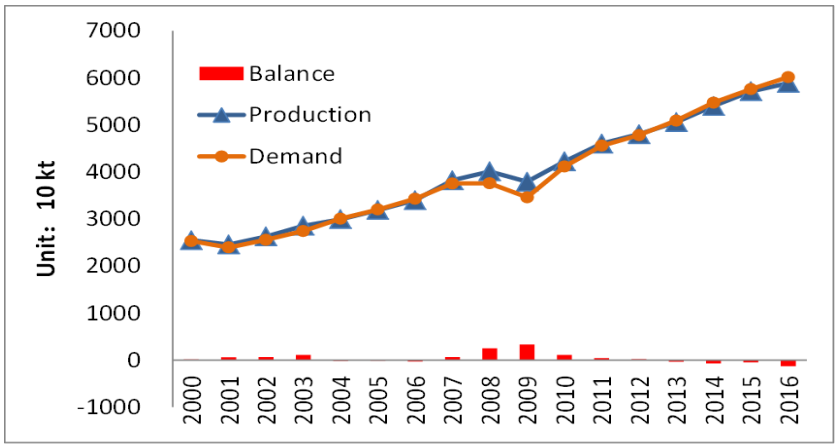
Table 14. 2000-2016 Dynamic Balance of Global Primary Aluminum Supply and Demand (Unit: 10,000 Tons)

	Capacity	Production	Demand	Balance
2000	2769.0	2547.5	2531.0	16.5
2001	2816.1	2458.1	2395.9	62.2
2002	2952.0	2626.5	2559.1	67.4
2003	3318.9	2854.5	2744.2	110.3
2004	3516.4	2994.1	3006.4	-12.3
2005	3713.2	3188.9	3199.7	-10.8
2006	3884.3	3398.6	3429.6	-31.0
2007	4280.0	3821.7	3754.8	66.9
2008	4560.2	4009.1	3756.1	253.1
2009	4975.3	3791.1	3459.7	331.4
2010	5221.7	4221.7	4111.7	110.0
2011	5586.7	4599.0	4555.0	44.0
2012	5814.6	4800.0	4780.0	20.0
2013	6390.4	5057.0	5090.0	-33.0
2014	6897.0	5400.0	5471.0	-71.0
2015	7238.0	5710.0	5756.0	-46.0
2016	7490.0	5887.0	6012.0	-125.0
2001-2016CAGR	6.4%	5.4%	5.6%	

Source: CRU, Antaike

[30] CRU, Antaike

Figure 15. 2000-2016 Global Primary Aluminum Supply and Demand Balance



Source: CRU, Antaike

The highly disruptive 2008 global financial crisis, for example, led to sharp imbalances in global supply and demand, tending to negatively impact global aluminum capacity. The overcapacity problem is temporary and global, requiring all countries' efforts to solve. We believe that all countries should join forces to address the global overcapacity problem.

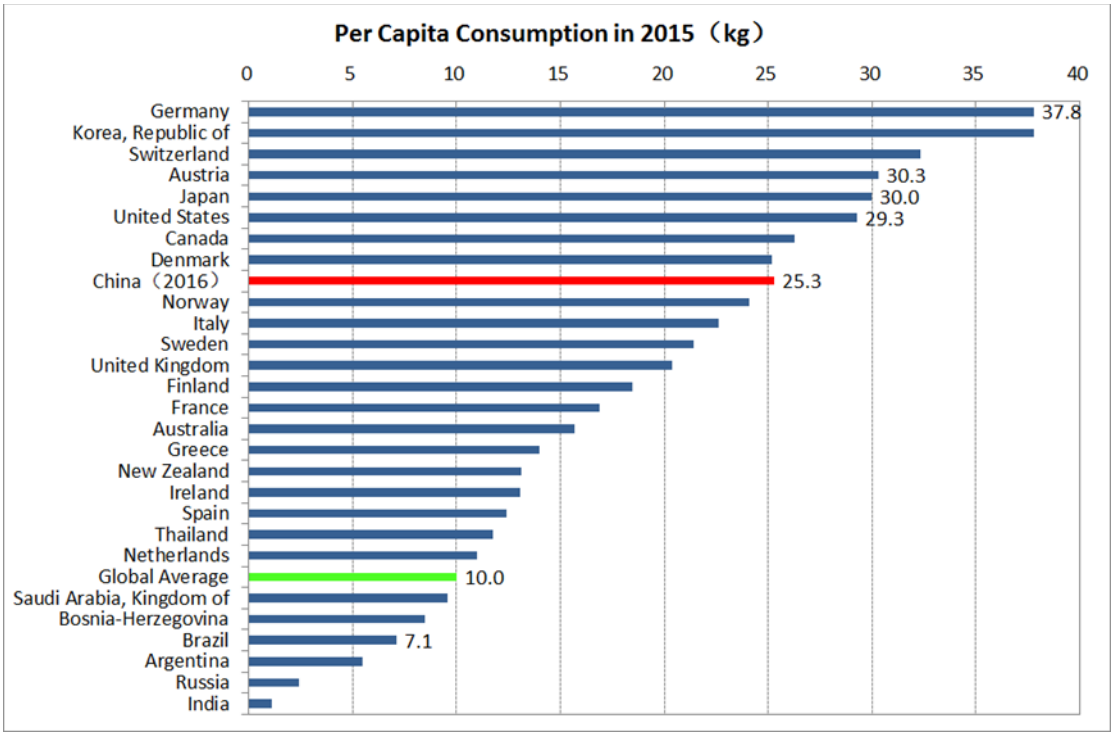
B. The Government of China And Chinese Aluminum Industry Have Joined Hands to Solve The Imbalanced Supply And Demand.

On one hand, China has reduced the production capacity. The Government of China and aluminum industry have proactively taken measures to restrict the blind expansion of newly invested production capacity, and to guide the exit of backward production capacity. These measures have great achievements. In terms of aluminum demand, the aluminum industry starts to focus on the expansion of aluminum applications to increase the demand, and therefore, to balance the supply and demand.

In particular, the aluminum industry has started to focus actively on the expansion of aluminum applications. China's per capita aluminum consumption and aluminum reserves have

yet to reach the largest potential. China's per capita consumption of aluminum is 25.3 kg (2016), much lower than Germany's 37.8 kg (2015), Austria's 30.3 kg (2015), Japan's 30 kg (2015), the United States 29.3 kg (2015). In 2015, China's per capita aluminum reserves was 120 kg, while that in the United States has reached to 500 kg.

Figure 16. 2016 Global Per Capita Consumption of Aluminum (Unit:KG)



Source: Antaike, International Aluminium Institute

China has focused on and achieved significant results in cultivating the aluminum market and guiding the direction of aluminum consumption through actively expanding aluminum applications in transportation, construction, and electricity. This includes initiatives to increase aluminum usage for aluminum trailers, aluminum alloy electric buses, alloy building formwork, alloy casing, alloy bridges, and alloy power cables. In 2016, global aluminum consumption increased by 4.2 percent with China representing the vast majority of that growth. Chinese

aluminum consumption increased by 7.9 percent. Non-Chinese consumption of aluminum, meanwhile, increased by only 1.2 percent.[31] We hope to continue to work together with the world to increase aluminum applications in, for example, large-scale application and development of aluminum furniture and aluminum-air batteries.

C. Open Communication and Cooperation Among Industries Are The Right Way to Deal With Trade Issues

It is beyond question that every industry encounters problems and difficulties during its development. China's aluminum industry is willing to work together with the world to face the challenges by sticking to the principles of cooperation, mutually beneficial growth, and win-win strategies. To deal with the global overcapacity issue, the world should not only work together to guide the withdrawal of inefficient production capacity, but also to expand aluminum applications in newly emerging sectors. The CNIA opposes the imposition of trade or investment restrictions on the grounds of national security. The CNIA is willing to work together with aluminum industries in other countries to strengthen cooperation, remove barriers, and further push the development of the global aluminum industry.

VI. THE INTERNATIONAL TRADE LEGAL FRAMEWORK DOES NOT PERMIT MEMBER COUNTRIES TO IMPOSE TRADE RESTRICTION MEASURES BY ABUSIVELY INVOKING A NATIONAL SECURITY EXCEPTION

Free trade is the cornerstone of the modern international trade regime. We hope that the U.S. Department of Commerce will fairly conduct this investigation, and take a cautious approach to restricting trade on the basis of national security.

---

[31] CRU, Antaike

A. The GATT Security Exception Does Not Support Import Restrictions on Aluminum.

Under the multilateral trading system, the GATT contains a narrowly-drawn national security exception for action that a WTO member deems is "necessary" to protect "essential security interests." Such action, moreover, must relate to traffic in defense items or supplies to the military, or a time of war or emergency in international relations. None of these conditions for action on imports of aluminum under the GATT security exception are present in this case. We note further that this security exception has not been the subject of interpretation under WTO dispute settlement, namely because WTO members have refrained from broadly restricting imports by invoking the GATT security exception.

B. World Trade Rules Provide Ample Protection for Import Injury.

In addition, since the establishment of WTO, member countries have refrained from initiating trade remedy investigations by invoking the national security exception. Instead, trade remedies are legitimately pursued under the WTO agreements on antidumping measures, subsidies and countervailing measures, and safeguards. These detailed agreements establish procedures and substantive conditions that must be met prior to imposing trade remedy relief. The United States should not bypass these procedures by restricting aluminum imports as a result of a national security investigation.

C. Abusively Invoking the National Security Exception Will Cause Other Countries to Follow and Undermine the U.S. Economy.

At the same time, in light of the lack of a unified definition of "national security" among WTO members, broad import restrictions by the United States may trigger other countries to invoke similar national security interests to protect their own allegedly critical industries from

imports. U.S. action under the guise of national security could, therefore, cause a cascade of similar actions by other WTO members, undermining the rules-based WTO system and the U.S. economy. We hope that the United States will carefully assess the impact of this section 232 investigation on the multilateral trading system, and play a positive role in the global order of international trade and commerce.

VII. MANY U.S. STAKEHOLDERS OPPOSE THE IMPOSITION OF IMPORT RESTRICTIONS.

The CNIA took note at the hearing of the following points reiterated in testimony to the Commerce Department by interested parties. These point support CNIA's analysis and data, as presented above.

A. Import Restrictions Will Cause Unintentional Negative Consequences for U.S. Businesses and Employment in Downstream Industries and on U.S. Consumers.

> Testimony of C-KOE Metals L.P.: *The U.S. downstream aluminum industry is 10 times larger than the U.S. smelting industry. These downstream industries would be negatively affected by restrictions.*
>
> Testimony of Can Manufacturers Institute: *Import Restrictions would compromise the competitiveness of U.S. downstream producers.*
>
> Testimony of Flexible Packaging Association: *Damages to the U.S. flexible packaging industry that employs far more people than the aluminum industry will outweigh any benefits to the primary aluminum industry.*

Many U.S. stakeholders testified at the hearing that import restrictions will have the following specific negative unintended consequences for U.S. downstream industries:

- **U.S. downstream companies will not be able to compete due to higher costs of inputs, resulting in end users substituting aluminum with other materials. Further, if the inputs are subject to tariffs, then**

other countries will shift to exporting to the U.S. downstream products. (Testimony of *Beer Institute*)

- **U.S. downstream industries will suffer from increased import competition and lost sales**. (Testimony of *Flexible Packaging Association, Beer Institute*)
- **U.S. downstream industries will suffer from lower employment.** (Testimony of *Can Manufacturers Institute* (tariffs will dramatically curtail employment in downstream industries)); (Testimony of *Flexible Packaging Association* ("The unintended consequences of potential remedies . . . on the ability for flexible packaging manufacturers to get the aluminum necessary to create innovative products and functional products . . . would be the loss of flexible packaging manufacturing jobs in the U.S. . . . Damages to the flexible packaging industry that employs far more people {(80,000 jobs)} will outweigh any benefits to the primary aluminum industry.")))
- **U.S. downstream industries will suffer from reduced investment.** (Testimony of *Can Manufacturers Institute* (tariffs will dramatically curtail investment in downstream industries))
- **U.S. downstream industries will move production overseas.** (Testimony of *Flexible Packaging Association*)
- **U.S. consumers will suffer from higher prices in downstream products.** (Testimony of *Beer Institute, Can Manufacturers Institute* (U.S. consumers will pay more, particularly difficult for consumers that rely on an affordable canned product))
- **There will be a reduction in U.S. aluminum exports of downstream industries.** (Testimony of *HARBOR* (U.S. exports of value-added aluminum products would decline if import restrictions were put into place that impact prices.))

B. The U.S. Primary Aluminum Industry's Decline is Caused by Factors Unrelated to Aluminum Imports or Production in China.

Testimony of HARBOR: *The demise of the U.S. primary aluminum industry has little to do with production in China. U.S. smelter production had already declined 40% by the time China's aluminum production and consumption started to take off in 2002.*

Specifically, many U.S. stakeholders testified at the hearing that the decline in the U.S. primary aluminum industry can be attributed to:

- **High U.S. energy costs.** (Testimony of *Can Manufacturers Institute, Beer Institute, HARBOR, C-KOE Metals L.P.*)
- **Aging U.S. facilities and lack of investment in smelting assets.** (Testimony of *Can Manufacturers Institute, Beer Institute, HARBOR, C-KOE Metals L.P.*)
- **Increase in the availability of domestic scrap.** (Testimony of *HARBOR, Can Manufacturers Institute (*an exponential increase in the domestic scrap availability making the need for primary aluminum industry less))
- **A strong U.S. dollar relative to other currencies.** (Testimony of *Beer Institute, HARBOR)*
- **LME pricing irregularities.** (Testimony of *Beer Institute* ("serious irregularities in the trading of primary aluminum contracts and in the storage of aluminum at warehouses approved by LME.”))
- **Long-term decline in aluminum consumption per capita**. (Testimony of *HARBOR*)
- **The U.S. aluminum industry has shifted to more energy-rich regions.** (Testimony of *HARBOR*)
- **Mature industry moving to more profitable segments.** (Testimony of *HARBOR* (Growing primary aluminum imports is a natural economic effect of the long-term decline in uncompetitive parts of the U.S. aluminum industry. This decline is the result of an "organic" maturity process of U.S. aluminum production moving away from low value, energy intensive, and less competitive industrial sectors to more profitable, energy efficient sectors.))

C. U.S. Primary Aluminum Production Is More than Adequate for U.S. Military and Civilian Needs.

Many U.S. stakeholders testified at the hearing that there is adequate U.S. primary aluminum production supported by the following facts:

- U.S. primary aluminum production is 40 times larger than U.S. military aluminum demand volume. (Testimony of *HARBOR*).
- The U.S. industry produces 3 times more high purity aluminum than is needed for U.S. military consumption per year. Existing U.S. high-purity aluminum inventories can cover almost 2 years of military consumption. Even if U.S. production of high purity aluminum ceases, then enough high purity aluminum for defense purposes can be produced in the U.S. using the fractional crystallization technology, which is currently being

manufactured in the U.S. in commercial quantities. (Testimony of *HARBOR*)

- U.S. defense consumes 42,000 MT of high purity aluminum per year, while U.S. capacity for high purity aluminum is 92,000 MT per year. Thus, the U.S. has 1.8 times the high purity it needs per year and 75,000 MT in U.S. domestic inventory. (Testimony of *C-KOE Metals L.P.*)
- 99% of U.S. military demand is sourced domestically. (Testimony of *HARBOR*)
- The U.S. has a trade surplus in aluminum with China. The U.S. exports more aluminum scrap units to China than the flat rolled products it imports from China. (Testimony of *HARBOR*)
- 98% of aluminum mill products and castings consumed in the U.S. are domestic. (Testimony of *HARBOR*)

VIII. CONCLUSION

U.S. imports of aluminum from China are a contributive factor to the overall U.S. economy, and Chinese imports of aluminum do not threaten national security in the United States. We oppose the imposition by the U.S. government of any trade and investment restrictive measures based on national security. We are willing to cooperate with the aluminum industry associations in the world to remove the trade barriers and to promote the healthy development of the global aluminum industry.